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PLANTAE PAPUANAE ARCHBOLDIANAE, X*

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LIKE earlier papers of the series, this contains descriptions of novelties and records of range-extensions or sometimes of older names which have not yet found their way into current use in this flora. The miscellany includes families from the Balanophoraceae to the Ceratophyllaceae, the Connaraceae, Leguminosae, Datisceae, Haloragaceae, Loganiaceae, and a note on *Mastixiodendron* Melchior. Several people at different times have contributed to the determinations for the Leguminosae of the various Archbold Expeditions. While naming the 1938-39 collection, we have re-checked the others for the range-extensions which are here recorded, appending to each, where known, the name of the person who made the determination. Although not wholly in favor of designating *subspecies* in preference to *varieties*, we have followed the nomenclature of Danser in the Polygonaceae and of Mattfeld in the Caryophyllaceae to avoid nomenclatural changes in groups with which we are not at all familiar.

BALANOPHORACEAE

Balanophora J. R. & G. Forster

Balanophora papuana Schlechter, Bot. Jahrb. **50**: 68, f. 1, A-E. 1913; Harms, Nat. Pflanzenfam. ed. 2, **16b**: 334, f. 168. 1935.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, Brass 12232, January 1939, alt. 700 m., frequent in open places between Pandanus prop-roots, etc., in rain-forest ravine (orange-brown warty masses \pm 20 cm. diameter, 15 cm. high).

Previously known from Northeastern New Guinea.

ARISTOLOCHIACEAE

Aristolochia Linnaeus

Aristolochia gracilifolia O. C. Schmidt, Bot. Jahrb. **58**: 490. 1923.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, Brass 12909, February 1939, alt. 1200 m., climbing to 3 m. in oak forest undergrowth

*Botanical Results of the Richard Archbold Expeditions. See Jour. Arnold Arb. **23**: 233-297. 1942.

(flowers greenish white, tinged and veined with purple). BRITISH NEW GUINEA: Mafulu, *Brass* 5229, September–November 1933, alt. 1250 m., climbing in undergrowth of limestone regions, uncommon (flowers closely purple-reticulate over a yellowish ground color).

These collections suit the original description of this species fairly well. In *Brass* 5229 the leaves are 7–8 cm. long, 2.2–3 cm. broad, while those of *Brass* 12909 are 22 cm. long, 5 cm. broad. The inflorescences are 7 cm. and 17 cm. long respectively, the shorter being axillary, the longer apparently lateral. In spite of the difference in the size of the leaves and the position of the inflorescence, the similarity of the flower-buds as well as the leaf-shape and venation is good evidence that the two are conspecific.

The type of *Aristolochia pithecurus* Ridl. ought to be examined. The description of the flower is very much like that of this species. It is to be noted, however, that the flowers are described as sessile and the bracts as 1 cm. long. Further, Lauterbach described an isotype (*Bot. Jahrb.* **52**: 106. 1914), *Forbes* 621 deposited in the Leiden Herbarium, as representing flowering material of *A. momandul* K. Schum. Evidently the collection was a mixture.

Aristolochia tagala Cham. *Linnaea* **7**: 207, *t.* 5. *f.* 3. 1832; Merr. *Enum. Philip. Fl. Pl.* **2**: 120. 1923.

Aristolochia megalophylla K. Schum. in K. Schum. & Hollr. *Fl. Kaiser Wilhelms Land* 104. 1889; *Warb. Bot. Jahrb.* **13**: 300. 1891; K. Schum. *Notizbl. Bot. Gart. Berl.* **2**: 113. 1898; K. Schum. & Lauterb. *Fl. Deutsch. Schutzgeb. Südsee* 302. 1900; Reching, *Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien* **89**: 549. 1913; Lauterb. *Bot. Jahrb.* **52**: 106. 1914.

BRITISH NEW GUINEA: Daru Island, *Brass* 6382A; Mabaduan, *Brass* 6504, climbing in second growth rain-forest; Lake Daviumbu, Middle Fly River, *Brass* 7718, large climber common in second growth rain-forest. SOLOMON ISLANDS: Bougainville: Karngu, Buin, *Kajewski* 2225, vine climbing rain-forest trees.

Although in most instances the leaves of the New Guinean specimens are larger than those of the Philippine material, we have been unable to find any real specific differences.

POLYGONACEAE

Rumex Linnaeus

Rumex Brownii Campdera, *Mon. Rumex*, 64, 81. 1819; Danser, *Bull. Jard. Bot. Buitenz. III.* **8**: 131. 1927; *l. c.* **13**: 429. 1935.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass* 11387, November 1938, alt. 2200 m., very abundant weed in native gardens and about villages.

Reported previously from a collection in the mountains of British New Guinea. The field note indicates that the plant is aggressive.

Polygonum Linnaeus

Polygonum benguetense Merr. *Philip. Jour. Sci.* **10**: 301. 1915; *Enum. Philip. Fl. Pl.* **2**: 122. 1923.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9036, 9437, August 1938, alt. 3225 m., with mosses and small sedges on shores of lake, common (prostrate and ascending; flowers white).

These collections are a reasonably good match for the Philippine material. The species has been considered as a variety of *Polygonum strigosum* R. Br. by Steward, but until further material is available to show intermediate variations we prefer to maintain it as a species.

Polygonum minus subsp. **decipiens** Danser, Bull. Jard. Bot. Buitenz. III. **8**: 178. 1927; l. c. **13**: 429. 1935.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9436, 9512, August 1938, alt. 3225 m., ascending to 1 m. among tall sedges of the lake shore and covering muddy places on drying margins of the lake (flowers pink).

Reported by Danser from Papua on a collection of an earlier Archbold Expedition.

Polygonum minus subsp. **depressum** Danser, Bull. Jard. Bot. Buitenz. III. **8**: 176, f. 9. 1927.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9544, August 1938, alt. 3225 m., frequent with *Eriocaulon*, *Ranunculus*, etc. on open boggy ground (prostrate and spreading to 20 cm. diameter; flowers pink).

Although the leaves are smaller, 1–1.5 cm. long, than usual in this plant, and the spikes are shorter, it is too much like Danser's figure and a collection from Java to place it elsewhere. Danser gives the range as India, Sumatra, and Java.

Polygonum lapathifolium Linn. Sp. Pl. 360. 1753; Danser, Bull. Jard. Bot. Buitenz. III. **8**: 185. 1927.

NETHERLANDS NEW GUINEA: Balim River, *Brass* 11623, December 1938, alt. 1600 m., common in old ditches (about 1 m. high; flowers pink).

As far as we know the species has not previously been recorded from New Guinea, although it is known from Malaysia and Australia.

Polygonum runcinatum subsp. **papuanum** Danser, Bull. Jard. Bot. Buitenz. III. **13**: 430. 1935.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9123, August 1938, alt. 3225 m., plentiful in shrubberies bordering forest, scrambling and sometimes densely massed; southern slopes of Grand Valley, *Brass* 9260 (coll. *Capt. Teerink*), August 1938, alt. 1800–2000 m.; 9 km. northeast of Lake Habbema, *Brass* 10759, October 1938, alt. 2800 m., scrambling to 2–3 m. in young second growths on native clearings (flowers green); Bele River, 18 km. northeast of Lake Habbema, *Brass* 11504, November 1938, alt. 2200 m., scrambling in grassy second growth, common.

This species was previously reported by Danser from Mount Tafa, Papua. On account of the extension of range, we have recorded these collections and note the fact that the field-notes indicate it is fairly common in the region.

AMARANTHACEAE

Deeringia R. Brown

Deeringia amaranthoides (Lam.) Merr. Interpret. Rumph. Herb. Amb. 211. 1917; Rehder, Jour. Arnold Arb. **14**: 66. 1933.

Achyranthes amaranthoides Lam. Encycl. **1**: 548. 1785.

Deeringia baccata (Retz.) Moq. in DC. Prodr. **13**²: 236. 1849; K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 42. 1889; Warb. Bot. Jahrb. **13**: 303. 1891; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 303. 1900.

Deeringia celosioides R. Br. Prodr. 413. 1810; F. v. Muell. Pap. Pl. **1**: 41. 1876; F. M. Bail. Queensl. Agric. Jour. **23**: 220. 1909.

SOLOMON ISLANDS: Bougainville: Koniguru, Buin, *Kajewski 2164*, August 1930, alt. 900 m., rain-forest.

Apparently this is the first record of this fairly wide-ranging species from the Solomon Islands.

AIZOACEAE

Glinus Linnaeus

Glinus oppositifolius (L.) Aug. DC. Bull. Herb. Boiss. II. **1**: 559. 1901; Pax & Hoffman, Nat. Pflanzenfam. ed. 2, **16c**: 222, f. 95 A-D. 1934.

Mollugo oppositifolia Linn. Sp. Pl. 89. 1753.

Glinus Spergula (L.) Fenzl in Spreng. Nom. Bot. ed. 2, **1**: 688. 1840; Pax, Nat. Pflanzenfam. **3**(1b): 40. 1889; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 308. 1900; Pulle, Nov. Guin. **8**: 355. 1910.

BRITISH NEW GUINEA: Penzara, between Morehead and Wassi Kussa Rivers, *Brass 8446*, December 1936, abundant on shaded banks of waterhole.

This species has been recorded from New Guinea previously as *Mollugo* and as *Glinus Spergula* (L.) Pax.

Mollugo Linnaeus

Mollugo pentaphylla Linn. Sp. Pl. 89. 1753; Merr. Enum. Philip. Fl. Pl. **2**: 135. 1923.

Mollugo stricta Linn. Sp. Pl. ed. 2, 131. 1762; F. v. Muell. Pap. Pl. **2**: 43. 1886; Warb. Bot. Jahrb. **13**: 305. 1891; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 308. 1900; Rechinger, Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien **89**: 551. 1913.

BRITISH NEW GUINEA: Daru Island, *Brass 6386*, a wet season ephemeral, gregarious on hard compacted soil; Baroka, Nakeo District, *Brass 3735*, damp soil on savanna flat, rare.

PORTULACACEAE

Montia Michaux

Montia lamprosperma Cham. Linnaea **6**: 565. 1831; Fernald & Wiegand, Rhodora **12**: 138, t. 84c. 1910; von Poellnitz, Rep. Sp. Nov. **30**: 317. 1932; Pax & Hoffm. Nat. Pflanzenfam. ed. 2, **16c**: 259. 1934.

NETHERLANDS NEW GUINEA: 4 km. northeast of Wilhelminatop, *Brass & Myer-Drees 9972*, September 1938, alt. 3650 m., prostrate on banks of a grassland stream.

The genus is new to Papuasias. The species is one of several which form the aggregate species *Montia fontana* L. reported from southern Australia and New Zealand as well as being wide-spread in north temperate regions. *Montia fontana* L. sensu strictu has much duller and minutely tuberculate seeds.

Portulaca Linnaeus

Portulaca quadrifida Linn. Mant. **1**: 73. 1767; Merr. Enum. Philip. Fl. Pl. **2**: 136. 1923; von Poellnitz, Rep. Spec. Nov. **37**: 275. 1934.

SOLOMON ISLANDS: Ula wa: *Brass 2991*, October 1932, common on beach sands (whole plant very fleshy; flowers yellow). A widespread tropical weed apparently not previously recorded from the Solomon Islands.

CARYOPHYLLACEAE

Stellaria Linnaeus

Stellaria saxatilis Buch.-Ham. in Don, Prodr. Fl. Nep. 215. 1825; Edgeworth & Hook. f. Fl. Brit. Ind. **1**: 232. 1874; Handel-Mazzetti, Symb. Sin. **7**: 190. 1929.

Stellaria laxa Merr. Philip. Gov. Lab. Bur. Bull. **29**: 12. 1905, Enum. Philip. Fl. Pl. **2**: 138. 1923, non F. Behm. (1887).

Stellaria stellato-pilosa Hayata, Jour. Coll. Sci. Tokyo 25, Art. **19**: 58, t. 2. 1908.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass* 10728, October 1938, alt. 2800 m., scrambling over shrubs and ferns in native clearings in the forest (flowers white); Bele River, 18 km. northeast of Lake Habbema, *Brass* 11582, November 1938, alt. 2200 m., very abundant about native villages, scrambling over garden fences, etc. (flowers white).

As far as we know the genus is new for New Guinea. The collections are a good match for *Stellaria laxa* Merr. from the Philippines and the plate of *S. stellato-pilosa* Hay. and as far as we can judge from the somewhat meager material from India, it is not specifically distinct from *S. saxatilis* Buch.-Ham. We also have a few collections from Yunnan which appear to belong to this species. If we are correct in our identification of this material this is an extension of the range of this Himalayan species known to occur in the high mountains of Yunnan, Formosa, Luzon, possibly in Java, and now in New Guinea. We have not seen any material from Java and hence, we are not sure of the identity.

Cerastium Linnaeus

Cerastium Keysseri Schlechter in Diels, Bot. Jahrb. **62**: 478. 1929; Mattf. Bot. Jahrb. **69**: 270. 1938.

NETHERLANDS NEW GUINEA: northern slopes of Mount Wilhelmina, *Brass & Myer-Drees* 10089, September 1938, alt. 4150 m., under a rock on alpine grassland.

This is a very compact little plant with small flowers agreeing fairly well with the description of the type. It does not differ essentially from some Clemens' collections cited by Mattfeld except that it is much more compact and hence appears more pubescent, the narrowed base of the leaves and the internodes are much shorter than in the plant of looser habit, but we have not found any apparent specific differences. Previously known only from Northeastern New Guinea.

Cerastium papuanum subsp. **geminiflorum** Mattf. Bot. Jahrb. **69**: 269. 1938.

NETHERLANDS NEW GUINEA: Northern slopes of Mount Wilhelmina, *Brass* 10081, September 1938, alt. 3950 m., alpine grassland, in thick soft mats on moist rocks.

This collection is a good match for the isotype, *Brass* 4309, from Mount Albert Edward.

Cerastium papuanum subsp. **phaenops** var. **eciliatum** Mattf. Bot. Jahrb. **69**: 269. 1938.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9122, August 1938, alt. 3225 m., scrambling on grass tussocks about forest margins (flowers white); 11 km. northeast of Wilhelminatop, *Brass & Myer-Drees* 9720, September 1938, alt. 3400 m., rather dry western slope, grassy place (flowers white).

Here again these two collections appear to be conspecific with the isotype of this variety collected on Mount Albert Edward.

Sagina Linnaeus

Sagina belonophylla Mattfeld, Bot. Jahrb. **70**: 468. 1940.

NETHERLANDS NEW GUINEA: 7 km. northeast of Wilhelminatop, *Brass & Myer-Drees* 10021, September 1938, alt. 3650 m., alpine grassland, cushioned on moist rocks

(flowers white); northern slopes of Mount Wilhelmina, *Brass & Myer-Drees 10086*, September 1938, alt. 3950 m., common on old grassy screes, in cushions 12–15 cm. diameter. *Sagina belonophylla* Mattf. was described from a collection made on Mount Sarawaket in 1937.

Sagina papuana Warb. Bot. Jahrb. **16**: 14, 21. 1892; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 310. 1900; van Steenis, Bull. Jard. Bot. Buitenz. **13**: 181. 1934; Mattf. Bot. Jahrb. **69**: 270. 1938.

NETHERLANDS NEW GUINEA: 11 km. northeast of Wilhelminatop, *Brass & Myer-Drees 9744*, September 1938, alt. 3400 m., wet grassy valley; northern slopes of Mount Wilhelmina, *Brass & Myer-Drees 10041*, September 1938, alt. 4050 m., forming loose cushions in long grass of old rock screes; 9 km. northeast of Lake Habbema, *Brass 10552*, October 1938, alt. 2800 m., prostrate and matted in open beds of streams (flowers white).

This species has been recorded from Northeastern New Guinea, Papua and the Philippines. Mattfeld has already pointed out that it shows considerable variation. Although we have eight collections at hand, these still are not sufficient for us to define the specific limits. In addition we have two other collections: Lake Habbema, *Brass 9202, 9438A*, August 1938, alt. 3225 m., matted on open boggy ground and gregarious on open low shores of lake (flowers white). These plants do not have the long decumbent twining stems characteristic of the other collections but are fairly short as if they grew in tussocks. The calyx is shorter, as in the original description, and the petals are lacking. The leaves are not so definitely cuspidate, and the capsule is longer than the calyx, but owing to the variation within the species we are inclined to believe the differences here are environmental rather than inherent.

Sagina echinosperma Hayata, Icon. Pl. Formos. **3**: 39. 1913; Masamune, Short Fl. Formos. 61. 1936.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass 11569*, November 1938, alt. 2350 m., rooting in earthy niches on a sparsely vegetated limestone precipice (flowers white).

Although the collection and the original description show some little differences, in view of the variation in our material of *Sagina papuana* Warb., it is perhaps better at present to place the collection with the Formosan species. Hayata's description does not mention the minute pustulations on the leaves, nor the \pm remote hairs on the lower surface of the midrib. The petals (4 mm.) in the New Guinea material are longer than the sepals and the fully mature seeds are 0.6–0.8 mm. long. There are 10 stamens, those opposite the sepals have a glandular base as in *S. papuana* Warb. Although this appears to be a rather disrupted range, it is to be noted that *Stellaria saxatilis* Buch.-Ham., with a much wider range, has been found in the same localities. This is evidently a montane plant.

NYMPHAEACEAE

Nymphaea Linnaeus

It has been somewhat difficult to name the collection of *Nymphaea* L., not only on account of the lack of material for comparison, but also owing to the varying interpretations writers have given the species of this genus.

Further, most workers have had the advantage of handling living plants. In the New Guinean collections there are apparently five distinct species, three of which belong to the "gigantea-group." In that group five species have been described, all Australian except *N. gigantea* Hook., which has been reported from New Guinea. There has been considerable variance of opinion in interpreting *N. violacea* Lehm. Whatever the species may really be, we seem to have at present no alternative to placing three Papuan collections in it. With the exception of *Brass 5842*, which we have named *N. pubescens* Willd., the flowers of the material of *N. violacea* Lehm. are the largest in the collections under consideration.

Nymphaea violacea Lehmann Hamb. Garten- und Blumenzeit. **9**: 218. 1853; Henkel, Rehnelt & Dittman, Das Buch Nymphae. 65. 1907.

Nymphaea Brownii F. M. Bail. Queensl. Fl. **1**: 39. 1899.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7607*, few plants in water of swamps (underside of leaves violet-colored; flowers pale blue); same locality, *Brass 7610*, commonest species in the great lagoons and swamps (lateral nerves of leaves scarcely visible on the upper surface; underside of leaves violet-colored; flowers white, peduncles striped with purple); Dagwa, Oriomo River, *Brass 5949*, few plants in small pond on savanna, uncommon (leaves floating flatly on water, pale and smooth above and dark purple beneath except the green midrib and veins; petioles marked with very fine purple lines; flowers raised 15–20 cm. above surface of water on peduncles heavily lined with dark purple; sepals outside very dark with streaked markings of deep purple and yellow-green, inside bluish white; petals blue with a purple tinge towards the apex; stamens pale yellow; fertilized flowers retracted to bottom of pond by snake-like coiling of peduncles).

We have not attempted to assemble the synonymy of this species. The material agrees well with Bailey's description of *Nymphaea Brownii* and also seems to be in accord with *N. violacea* Lehm. The flowers are larger than in either of the species we have described, the seeds are smaller than in *N. macrosperma* and very minutely reticulate.

Nymphaea macrosperma sp. nov.

Folia in sicco coriacea glabra cordato-suborbicularia \pm 17 cm. longa 14 cm. lata margine 1.5–2 cm. remote repando-dentata, dentibus brevissimis interdum mucronatis, supra minutissime elevato-punctata, subtus costa valida nervis primariis utrinque \pm 6 palmatim dispositis elevatis reticulatim conjunctis marginem versus subevanidis; floribus 6–7 cm. diametro; sepalis 4 oblongis 3 cm. longis 1.2 cm. latis apice obtusis; petalis \pm 14 oblanceolato-oblongis 3 cm. longis apice obtusis; staminibus numerosis, antheris oblongis 3 mm. longis apice apiculatis vel obtusis, filamentis filiformibus; radiis stigmaticis 10 oblongo-cuneatis apice obtusis; seminibus \pm 4 mm. longis 3 mm. diametro, oblongis vel leviter ovoideis, more affinitatis lineis pubescentibus ornatis.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7608* (TYPE), August 1936, plentiful in open water of swamps and lagoon and rooting in water up to 2 fathoms deep (underside of leaves violet-colored, nerves clearly visible on the upper surface; flowers blue); Lake Daviumbu, *Brass 7606*, pink form of the common blue water-lily, one plant seen.

This species has smaller flowers and leaves than *Nymphaea Casparyi* Rehnelt & Henkel but is unquestionably of that alliance. The ovary is

naked between the ring of stamens surrounding the stigmatic rays and the insertion of the petals at the base.

***Nymphaea dictyophlebia* sp. nov.**

Folia in sicco coriacea glabra cordato-suborbicularia 37–45 cm. longa 34–37 cm. lata margine 2–3 cm. remote dentata, dentibus 3–4 mm. longis sublinearibus, supra minutissime elevato-punctata, subtus costa valida nervis primariis utrinque \pm 11 palmatim dispositis prominentibus reticulatim conjunctis; floribus 7–8 cm. diametro; sepalis 4 obovatis 3 cm. longis vix 2 cm. latis apice obtusis; petalis \pm 24 obovato-oblongis basi angustatis 3.5 cm. longis 1–1.5 cm. latis apice obtusis interioribus angustioribus; staminibus numerosis (\pm 400), antheris oblongis exterioribus 4.5 mm. longis obtuse apiculatis, interioribus brevioribus obtusis, filamentis filiformibus vel paullo complanatis; radiis stigmaticis \pm 14, cuneatis apice rotundatis.

BRITISH NEW GUINEA: Penzara, between Morehead and Wassi Kussa Rivers, *Brass* 8437 (TYPE), December 1936, plentiful in a permanent waterhole (flowers deep blue, 7–8 cm. diameter).

This collection seems to be most nearly related to *Nymphaea Casparyi* Rehnelt & Henkel. It differs in the thicker leaves with less remotely dentate margin and longer teeth, and the obviously elevated venation on the lower surface. The petals are mostly inserted just above the sepals, only four narrow ones being slightly higher. The stamens are massed in a ring surrounding the stigmatic rays. This may be one of the plants included in *N. gigantea* Hook. in earlier works, but the present tendency is to limit this species to those plants having very large flowers.

Barclaya Wallich

Barclaya Motleyi Hook. f. *Trans. Linn. Soc.* **23**: 157, *t.* 21, *f.* 1–5. 1860; Becc. in *D'Albertis' New Guinea* **2**: 396. 1881; F. v. Muell. *Pap. Pl.* **2**: 3. 1885; Pulle, *Nov. Guin. Bot.* **8**: 361. 1910.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass* 13604, March 1939, alt. 850 m., massed in muddy deeply shaded pools in rain-forest streams, totally submerged except the open flowers (leaves brown; petals green).
BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7072, June 1936, alt. 100 m., massed in beds of shallow muddy or gravelly streams in forest, scarcely distinguishable from the decaying leaves of the stream bottoms (leaves blackish green appearing brown under water; sepals brown; petals brown-green).

These collections vary from the Bornean material in having obovate-oblong leaves with less pubescence on the lower surface. Some of the plants are larger than any seen in the Bornean collections, the leaves are 6.5–20 cm. long, 3.5–14.5 cm. broad.

CERATOPHYLLACEAE

Ceratophyllum Linnaeus

Ceratophyllum submersum Linn. *Sp. Pl.* ed. 2, 1409. 1763; van Steenis, *Bull. Jard. Bot. Buitenz.* III. **13**: 103. 1933.

BRITISH NEW GUINEA: coast between Oriomo and Fly Rivers, *Brass* 6458, April 1936, massed in open water in *Melaleuca Leucadendron* swamp-forest (plant brown). According to van Steenis, the species has been found only once in Malaysia, in Java at low altitudes.

CONNARACEAE

Rourea Aubl.**Rourea simulans** sp. nov.

Frutex magnus scandens, ramulis novellis ferrugineo-tomentosis; foliis imparipinnatis, petiolo rhachique 7–12 cm. longis pubescentibus; foliolis 3–5-jugis suboppositis vel interdum subalternis breviter petiolatis, oblongo-lanceolatis basi rotundatis apice acutiusculis vel breviter obtuse acuminatis, 1.5–7.5 cm. longis et 0.8–2.5 cm. latis, supra subglabris brunnescentibus subnitidulis subtus glaucescentibus consperse pubescentibus, costa supra impressa subtus prominente atque subtomentulosa, nervis primariis utrinsecus 6–10 patentibus circiter 3 mm. a margine arcuatim anastomosantibus; inflorescentiis paniculatis \pm 4 cm. longis terminalibus axillaribusque plerumque pluribus aggregatis in axillis; axi, ramis, pedicellis calycibusque breviter hirtellis; sepalis ovatis vix 2 mm. longis obtusiusculis; petalis circiter 5 mm. longis; staminibus brevissimis.

BRITISH NEW GUINEA: Lower Fly River (east bank), Gaima, *Brass* 8288 (TYPE), November 1936, rain-forest borders (large climbing shrub; flowers white).

The species is very closely allied to *Rourea Radlkoferiana* K. Schum. It differs in the softly tomentose new branchlets, the pubescent or hirtellous leaf-rhachis, the leaflets sparsely pubescent beneath and only shortly acuminate or acutish; the axis of the inflorescence and the calyx are hirtellous. We are not, as yet, wholly convinced that *Santaloides* (L.) Schellenberg is anything more than a geographical segregate; for this reason we have described the new species in *Rourea*.

LEGUMINOSAE

Archidendron F. von Mueller

With practically no material for comparison, and no key to the species of the genus already described, it has been very difficult to determine our material of *Archidendron* F. v. Muell. from descriptions only. Harms very distinctly states that he includes *Hansemannia* K. Schum. in *Archidendron* F. v. Muell. but does not transfer the species already described in the former genus. From the literature and the material at hand, we are wholly in agreement with the single generic concept; however, on account of the variability in our collections, we are transferring to *Archidendron* only those species of *Hansemannia* which have points of contact with our material.

Archidendron Schlechteri Harms, Bot. Jahrb. **55**: 40. 1917.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass* 14054, April 1939, alt. 50 m., common marginal tree in flooded rain-forests of river plain (plant 8–10 m. high; flowers white, in supra-axillary panicles).

Apart from the somewhat shorter and stouter inflorescence branches, this collection agrees very well with the isotype. Another collection either belonging to or closely allied with this species is *Brass* 8006, Lower Fly River, east bank opposite Sturt Island, October 1939, rain-forest (flowers white; inflorescence lateral on branchlets and smaller branches). This differs from the other collection in having a slightly shorter and more

campanulate calyx, a little narrower and longer corolla, and lateral inflorescences. All are very closely allied to *Archidendron Lucyi* F. v. Muell. of Queensland, which has slightly larger flowers. Our material is too scanty to estimate the amount of variation within species of the genus.

Archidendron gawadense (Bak. f.) comb. nov.

Hansemannia gawadensis Bak. f. Jour. Bot. **61**: Suppl. 13. 1923.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7351, July 1936, alt. 100 m., undergrowth of river flood-plain forest (slender tree 5 m. high; leaves scattered along the upper 2 m. of stem; flowers white, in numerous fascicles axillary or lateral between the leaves).

This is Baker's own determination. Since he gives no clue in the original description to the species affinity, we note that, as far as may be judged from their descriptions, the species is close to *A. graciliflorum* Harms and *A. parviflorum* Pulle. In the collection cited, the inflorescence-axis is about 3 cm. long, and the flowers are crowded at the apex.

Archidendron Ledermannii Harms, Bot. Jahrb. **55**: 42. 1917.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass* 13822, alt. 50 m., frequent in rain-forest on low lying alluvial soil (tree 2-3 m. high, branched or not; inflorescence on lower stem). Described from Northeastern New Guinea.

Archidendron papuanum sp. nov.

Arbor \pm 7.5 m. alta glabra; ramulis novellis viridescentibus; petiolo 10 cm. et rhachi primaria 8 cm. secundariaque 7-10 cm. longis; pinnis bijugis; foliolis 2-3-jugis ellipticis 7-11 cm. longis, 4-5.5 cm. latis, basi obtusis vel subrotundatis apice obtusiusculis, costa utrinque conspicua, nervis primariis utrinsecus \pm 5 utrinque prominulis, reticulo distincte manifesto; petiolulis 2 mm. longis in sicco atrofusis, glandulis interpetiolaribus interrachideisque applanatis vel depressis; inflorescentiis lateralibus (in specimine typico) 7 cm. longis; ramis brevibus; pedicellis 3 mm. longis; calyce campanulato 6 mm. longo breviter irregulariter lobulato; corolla (in alabastro apiculata) 1.5 cm. longa apice in lobis lanceolatis fissa; tubo stamineo in parte inferiore cum corolla connato; ovariis 5 stipitatis glabris.

BRITISH NEW GUINEA: Vailala River, Ihu, *Brass* 1110 (TYPE), March 1936, on riverbank (spreading glabrous tree 25 feet tall; large very dark green bipinnate leaves; petiole at insertion on stem and petiolules at insertion on rhachis much swollen; conspicuous white flowers on last year's wood).

Possibly this species is related to *Archidendron incurvatum* Lauterb. & K. Schum., but the calyx-tube is almost twice as long, and the leaflets are not acuminate.

Archidendron megaphyllum sp. nov.

Arbor sine ramis 14 m. alta; foliis \pm 1 m. longis; pinnis unijugis; petiolo 20 cm. et rhachi pinnae 66 cm. longis minute pubescentibus; foliolis 5-jugis superioribus late ellipticis 25 cm. longis, 15 cm. latis, basi inaequilateralibus apice obtusiusculis apiculatis, supra in costa nervisque minute pubescentibus, subtus in costa nervisque dense in lamina consperse ferrugineo-pubescentibus, costa supra plana subtus elevata, nervis primariis utrinsecus \pm 6 supra manifestis subtus prominulis, venulis subtus subclathratis, reticulo supra inconspicuo subtus distincto; petiolulo 1 cm. longo; inflorescentiis lateralibus brevibus, axi 3-4 cm. longo; calyce 3-4 mm. longo

pubescente; corolla puberula; legumine \pm 7 cm. longo, 2 cm. lato, inconspicue breviter tomentoso, valvis valde coriaceis; seminibus verisimiliter 7-8 nigris oblongis, 1.5 cm. longis, vix 1 cm. latis.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7227 (TYPE), July 1936, alt. 100 m., rain-forest substage, rare (unbranched tree 14 m. tall, with a few large leaves \pm 1 m. long, forming a scant crown, and several thick twisted pods in fascicles on the stem).

Perhaps this species is related to *Archidendron molle* (K. Schum.) comb. nov. (*Hansemannia mollis* K. Schum. Bot. Jahrb. **9**: 202. 1888—published as a separate 1887). It differs from the latter species in that the leaves are not oblong nor densely pubescent on either side, and the calyx is not glabrous.

Serianthes Benth

Serianthes minahassae (Koorders) comb. nov.

Albizia minahassae Koord. Mededeel. Lands Plant. **19**: 416-419. 1898 (Fl. N. O. Celeb.); Suppl. Fl. N. O. Celebes **1**(1): 13, t. 4. 1918.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Neth. Ind. For. Serv. bb.* 25681, *Brass* 13970, *Brass & Versteegh* 13546, July 1938, April 1939, alt. 50 and 100 m., rain-forest of flood plains, common on higher inundation levels (flat-topped tree up to 30 m. high; fruit dark brown); 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 13182, April 1939, alt. 750 m., primary rain-forest, frequent on the slopes (tree 32 m. high, 49 cm. diameter; flowers yellow-brown; fruit dark brown). SOLOMON ISLANDS: Bougainville: Koniguru, Buin, *Kajewski* 2143, August 1930, alt. 900 m., rain-forest (very large tree up to 35 m. high. Used for rafters in ceremonial houses). Previously known from the Celebes.

Serianthes Ledermannii Harms, Bot. Jahrb. **55**: 43. 1917; C. T. White, Jour. Arnold Arb. **10**: 219. 1929.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7349, July 1936, alt. 100 m., forests of river flood-banks (tree attaining 30 m.; crown umbrella-shaped; trunk narrowly spurred; bark brown, lenticellate; wood pale, yellowish, with a nauseating odor; leaflets smooth and shining above, underside grey) (det. E. G. Baker); Lower Fly River, east bank opposite Sturt Island, *Brass* 8076, October 1936, rain-forest, occasional on banks of river (conspicuous tree up to 20 m. tall; branches erect and eventually flat-spreading from a short grey stem; leaflets smooth and shining above, grey below; flowers white; pods brown pubescent).

The following is a brief description of the pod (scarcely mature): 16 cm. long, 3.9 cm. broad, finely pubescent to glabrate and inconspicuously veined, epicarp very thin, brown, not easily removed, endocarp subligneous, 1 mm. thick; seeds 8-10, dark brown.

Pithecellobium Martius

Pithecellobium palauense Kaneh. Bot. Mag. Tokyo **48**: 733. f. 3. 1934 (October).

Pithecolobium palauense Hosokawa, Trans. Nat. Hist. Soc. Formos. **24**: 414. 1934 (November).

SOLOMON ISLANDS: San Cristobal: Waimamura, *Brass* 2665, August 1932, coast rain-forest on coral limestone, common (handsome spreading tree 25 m. tall; pale brown lenticellate bark; branchlets and leaves very dull dark green; flowers white, with long thin contorted stamens).

A comparison of Hosokawa's description with that of Kanehira's, published a month earlier, leaves no doubt that the two are identical. The greatest discrepancy is in the description of the pod and this we attribute

to a difference in the age of the fruits in each collection. The flowers and the leaves of the Solomon Islands collection are a little larger and the axis of the inflorescence is slightly pubescent, but we cannot see any specific differences between the two. Both grow on coral limestone.

***Pithecellobium novo-guineense* sp. nov.**

Arbor 6–9 m. alta; ramulis griseo-brunnescentibus glabris; foliis bipinnatis; petiolo 6–11 cm. et rhachi primaria 5–9 cm. secundariaque 6–13 cm. longis; pinnis 2-jugis; foliolis 2–4-jugis glabris oppositis ellipticis 6–12 cm. longis, 3.3–6 cm. latis, basi anguste rotundatis apice breviter acuminatis, costa subtus prominente, nervis primariis utrinsecus \pm 6 patenti-adscedentibus prope marginem arcuatis, supra manifestis subtus prominulis, reticulo utrinque distincto; petiolulis vix 3 mm. longis; glandulis interpetiolularibus; inflorescentiis verisimiliter lateralibus, axibus 3–4 fasciculatis usque 25 cm. longis; floribus probabiliter sessilibus; calyce circiter 3.5 mm. longo puberulo, tubo anguste campanulato, dentibus brevibus acutis; corolla 1 cm. longa fere glabra, lobis circiter $\frac{1}{2}$ tubi longitudinem aequantibus; filamentis exsertis; ovario glabro breviter stipitato; legumine valde incurvato circiter 7 cm. longo, 8 mm. lato, margine inferiore late crenulato, seminibus \pm 10 oblongis 6 mm. longis, 4 mm. latis, leviter compressis in sicco brunnescentibus in margine convexo atrobunnescentibus.

BRITISH NEW GUINEA: Kappa Kappa, *Brass 824* (TYPE), December 1925, coast brushes (tree 20–30 feet tall; fruit bright red).

Although the specimen is somewhat broken, we are unable to place it among the named species of *Pithecellobium*. Two inflorescences are unattached but their bases suggest that they were lateral rather than axillary, as in *P. caulostachyum* Merr. of the Philippines. All the flowers are loose, but the two fruits both have remnants of the flower persisting, and these are sessile.

***Pithecellobium Clypearia* var. *velutinum* var. nov.**

Differt a forma typica foliolis subtus dense fulvo-velutinis; pedicellis 5 mm. longis.

BRITISH NEW GUINEA: Ononge Road, Dieni, *Brass 3932* (TYPE of var.), April–May 1933, alt. 500 m., rain-forest (slender grey barked tree 20 m. tall; leaves smooth above, covered with pale brown hairs beneath; flowers pale greenish yellow; pods red).

This collection very closely resembles both *Pithecellobium Clypearia* Benth. and *P. angulatum* Benth. It has the obtusish leaflets of the first and the long pedicels of the second. It differs from both in the dense indument on the lower surface of the leaves, but appears to be more like that of the first in the quality of the pubescence. The foliar glands are very short-stipitate or sessile. Certainly it does not wholly coincide with either specific concept as at present delineated. Perhaps it is a species in its own right, but more material for comparison would be necessary to establish this.

***Albizzia* Durazzini**

Albizzia retusa Benth. in Hook. Lond. Jour. Bot. **3**: 90. 1844; Merr. Enum. Philip. Fl. Pl. **2**: 247. 1923.

Albizzia littoralis Teysm. & Binn. Nat. Tijdschr. Ned. Ind. **29**: 259. 1867; Val. Bull. Dept. Agric. Ind. Neerl. **10**: 16. 1907.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass* 13988, April 1939, alt. 50 m., frequent in rain-forest subject to flooding (large buttressed tree attaining a height of 30 m.; flowers white with red stamens). BRITISH NEW GUINEA: Lower Fly River (east bank), Gaima, *Brass* 8316, November 1936, rain-forest second growths (one example — tree 10 m. high; leaflets greyish beneath; flowers white with purple stamens).

The material seems to correspond fairly well with this Malaysian species. It has previously been reported from Netherlands New Guinea under the name of *A. littoralis* Teysm. & Binn.

Albizzia falcata (L.) Backer, Voorl. Schoolfl. Java 109. 1908; Beknopte Fl. Java Afl. 5, Fam. 119: 10. 1941.

Adenantha falcata Linn. in Stickman Herb. Amb. 14. 1754, Amoen. Acad. 4: 124. 1759.

Albizzia moluccana Miq. Fl. Ind. Bat. 1(1): 26. 1855.

This species, already recorded from New Guinea several times under the name of *A. moluccana* Miq., is represented in our herbarium by the following numbers: *Neth. Ind. For. Serv. bb.* 22225, *Brass & Versteegh* 11176, 11176A, 12575, 13141, *Brass* 576, 5397, 8359, *Clemens* 935. From the Solomon Islands we have: Bougainville: *Kajewski* 1937, *Waterhouse* 94 (ser. no. 22698); Ysabel: *Brass* 3223.

Albizzia lebbekioides (DC.) Benth. in Hook. Lond. Jour. Bot. 3: 89. 1844.

BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass* 5858, January–March 1934, alt. 20 m., few trees scattered over small area on savanna (tree 7–8 m. tall, thickly foliated; branches drooping; hard grey bark; flowers numerous in greenish white globose heads) (det. van Steenis). A Malaysian species seemingly recorded for the first time in New Guinea.

Acacia Willdenow

Acacia aulacocarpa var. ***macrocarpa*** Benth. Fl. Austr. 2: 410. 1864.

BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass* 6017, 6024, January–March 1934, alt. 30 m., abundant in savanna forests (grey foliated shapely tree attaining large size; rough grey fissured bark) (det. C. T. White).

This and the two following species are apparently Australian species native also in New Guinea.

Acacia crassicarpa A. Cunn. ex Benth. in Hook. Lond. Jour. Bot. 1: 379. 1842; F. M. Bail. Queensl. Fl. 2: 511. 1900.

BRITISH NEW GUINEA: Wassi Kussa River, Tarara, *Brass* 8699, 8718, December 1936, January 1937, distinctive tree of brownish appearance forming a large part of both savannah and light rain-forests on low ridges of clay along the river (shapely tree attaining 20 m.; bark dark grey, hard, deeply fissured, inner bark red; wood yellowish); Lake Daviumbu, Middle Fly River, *Brass* 7673, September 1936, plentiful on lake shores in rain-forest and in contact zone of rain-forest and savannahs) (det. E. G. Baker). Northern Australia, Queensland.

Acacia leptocarpa A. Cunn. ex Benth. in Hook. Lond. Jour. Bot. 1: 376. 1842; F. M. Bail. Queensl. Fl. 2: 510. 1900.

BRITISH NEW GUINEA: Wassi Kussa River, Tarara, *Brass* 8531, common on savannah forest ridges (tree 10–12 m. high with hard deeply fissured grey bark); Gaima, Lower Fly River (east bank), *Brass* 8257, open savannah forests (tree 6–8 m. high, usually in groups; bark rough, deeply fissured; phyllodes somewhat glaucous) (det. E. G. Baker). Queensland.

Acacia Mangium Willd Sp. Pl. 4: 1053. 1806; F. M. Bail. Queensl. Fl. 2: 513. 1900.

NETHERLANDS NEW GUINEA: Agonda, *Neth. Ind. For. Serv. bb.* 22332 (det. van

Steenis). BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass* 5696, 5697, common tree of tall savannah and about rain-forest borders (det. C. T. White).

Probably the same plant was reported by F. von. Mueller from Papua as *Acacia holosericea* A. Cunn. For a discussion of the nomenclature and synonymy, cf. C. T. White, *Contr. Arnold Arb.* **4**: 42. 1933. Already known in the northern regions of Australia and in Malaysia.

Acacia pennata (Linn.) Willd. *Sp. Pl.* **4**: 1090. 1806; Merr. *Enum. Philip. Fl. Pl.* **2**: 249. 1923.

Mimosa pennata Linn. *Sp. Pl.* 522. 1753.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass* 13776, 13916, 14098, April 1939, alt. 50 m., very abundant in low growths fringing creeks on deeply flooded river plain (large prickly scandent shrub; flowers white). Tropical Asia, Malaysia, Africa. Not previously reported from Papuaasia.

Adenanthera Linnaeus

Adenanthera microsperma Teysm. & Binn. *Nat. Tijdschr. Nederl. Ind.* **27**: 58. 1864; Koord. & Val. *Mededeel. Lands Plant.* **11**: 279 (Bijdr. Boomsoort. Java **1**: 279). 1894.

NETHERLANDS NEW GUINEA: Hollandia, Bernhard Camp, *Neth. Ind. For. Serv. bb.* 25744, August 1938, alt. \pm 500 m.; Bernhard Camp, Idenburg River, *Brass & Versteegh* 13567, April 1939, alt. 570 m., frequent in primary rain-forest (tree 28 m. high, 45 cm. diameter; flowers yellow; fruits green). The first specimen cited was identified by van Steenis. We have not yet found any other record of the species in New Guinea.

Piptadenia Bentham

Piptadenia novo-guineensis Warb. *Bot. Jahrb.* **13**: 453. 1891; Rechinger, *Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien* **89**: 557. 1913; C. T. White, *Jour. Arnold Arb.* **10**: 219. 1929.

Schleinitzia microphylla Warb. *op. cit.* 336.

SOLOMON ISLANDS: San Cristobal: Magoha River, *Brass* 2736, August 1932, common in rain-forests (very handsome spreading tree 20 m. high, with brown fissured bark; petals white; stamens pink with yellow anthers); Balego-Nagonago, *Brass* 2698, August 1932, alt. 350 m., common in rain-forests on crest of spurs (handsome tree attaining a very large size and towering above most other trees in the hill forests). These Solomon Islands collections differ from the New Guinean material only in the new growth being more pubescent. Previously reported from New Guinea and Bougainville.

Parkia R. Brown

Parkia Versteeghii sp. nov.

Arbor usque 35 m. alta; ramulis brunnescentibus puberulis lenticellatis; foliis bipinnatis; petiolo 5–7 cm. longo puberulo supra basim glandulam ellipticam concavam ferente, rhachi 17–23 cm. longa patenti-pubescente vel glabrescente, rhachibus secundariis 6–10 cm. longis patenti-pubescentibus, trichomis brunnescentibus; pinnis 10–16-jugis suboppositis, glandulis inter superiores parvis concavis ellipticis vel suborbicularibus; foliolis 4–7 mm. longis, 2–3 mm. latis, 15–30-jugis utrinque consperse pubescentibus vel glabratis oblongis obtusis minute apiculatis basi suboblique truncatis angulis obtusis margine leviter recurvatis, costa utrinque prominula, nervis primariis utrinsecus 4–5 subobscuris; inflorescentiis dense capitatis pyriformibus ad anthesim 3.5–4 cm. longis, 2.3–2.5 cm. latis; pedunculo 12–25 cm. longo angulato; bracteolis anguste spathulatis apice concavo obtusis dorso hir-

tellis; floribus basi breviter stipitatis, stipite circiter 2 mm. longo pubescente; calycis tubo \pm 7 mm. longo, lobis extus pubescentibus 2 posticis concavis vix 1.5 mm. diametro crassiusculis, 3 anticis vix 1 mm. diametro tenuibus; petalis 5, lineari-oblongis obtusiusculis apice versus extus puberulis basim versus cum tubo stamineo adnatis; filamentis basi connatis in parte libera \pm 8 mm. longis (in floris neutris multo longioribus versus apicem consperse pilosulis), antheris anguste oblongis; ovario longe stipitato apice parce pilosulo, stylo glabro.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 13824*, *Brass & Versteegh 14020* (TYPE), April 1939, alt. 50 and 75 m., rain-forest, common on swampy edges of river flood plain (canopy tree 28–35 m. tall; flowers cream-color or yellowish; heads pendent).

The genus appears to be new for New Guinea. The species is perhaps closely related to *Parkia speciosa* Hassk. of Malaya and Sumatra; it differs in the larger pyriform heads and the suboblique and less distinctly veined leaflets.

Cynometra Linnaeus

?**Cynometra novo-guineensis** sp. nov.

Arbor vel frutex; ramulis tenuibus atrofusciis glabris; foliis brevissime petiolatis, petiolo 4–6 mm. longo ruguloso; foliolis unijugis oblique interdum late lanceolatis 4–7 cm. longis, 1–3 cm. latis, utrinque fere aequaliter angustatis basi cuneatis obliquis apice late acuminatis, acumine \pm 1 cm. longo, 3–5 mm. lato emarginato, glabris, nervis costa excepta inconspicuis; inflorescentiis axillaribus subumbellatis paucifloris; bracteis circiter 1 mm. longis obtusis striatis; pedicellis 4 mm. longis glabris; sepalis 5 oblongo-lanceolatis subirregularibus vix 2 mm. longis versus basim \pm connatis; petalis minimis (uno tantum viso); staminibus 10, antheris late ellipticis minute apiculatis; ovario brevissime stipitato versus apicem conspersissime piloso, stylo glabro; fructibus non visis.

NETHERLANDS NEW GUINEA: Hollandia, Bernhard Camp, *Neth. Ind. For. Serv. bb. 25712* (TYPE), August 1938, alt. 50 m.

This species somewhat resembles *Cynometra Warburgii* Harms of the Philippines, but in the former the axis of the inflorescence is more reduced, the leaflets are broader and very inconspicuously veined.

Maniltoa Scheffer

Maniltoa cynometroides sp. nov.

Arbor parva; ramulis brunnescentibus lenticellatis; petiolo 5–7 mm. longo ruguloso, rhachi 5–7 mm. longa minute puberula; foliolis bijugis sessilibus vel subsessilibus valde inaequilateralibus late obovato-cuneatis (terminalibus 2.8–4 cm. longis 1.8–2 cm. latis, lateralibus 1.9–2.9 cm. longis 0.8–1.3 cm. latis) a medio basim versus sensim angustatis apice rotundatis vel suboblique truncatis summo breviter obtuseque emarginatis, costa a margine antico 2–5 mm. distante, nervis primariis inconspicuis; inflorescentiis terminalibus et in axillis foliorum superiorum, non visis; axi circiter 5 mm. longo minute pubescente; pedicello vix 1 cm. longo crasso minute pubescente; staminibus 20 vel ultra; legumine arcuatim complanato-ovoideo immaturo 2 cm. longo, 1.5 cm. lato.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass*

6903 (TYPE), June 1936, alt. 100 m., one of the smaller trees of ridge-forest canopy layer, common (pods unripe; flowers not seen).

The plant immediately suggests *Cynometra* Linn., but at the base of two fruits a partial ring of stamens still adheres. These are in two rows; there are at least 20 on the fruits, we cannot be sure how many more there may have been in the flowers. From the dried parts of the calyx casually adhering, we assume that the flower is glabrous.

Maniltoa plurijuga sp. nov.

Arbor 24–29 m. alta; ramis glabris; ramulis petiolis rhachibusque ferrugineo-hirtellis; petiolo \pm 1 cm. et rhachi 6–15 cm. longis; foliolis 7–14-jugis sessilibus valde inaequilateraliter oblongis vel oblongo-sub-rhomboides 2.5–4 cm. longis, 8–10 mm. latis, basi latere postico rotundato-obtusis apice obtusiusculis sub apice 1–3 mm. emarginulatis, costa circiter 2 mm. a margine antico distante subtus nonnumquam parce hirtella, nervis primariis reticuloque supra leviter impressis subtus inconspicuis; ceteris ignotis.

NETHERLANDS NEW GUINEA: 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13539* (TYPE), April 1939, alt. 650 m., rare tree of primary rain-forest on slope of ridge (24 m. high, 48 cm. diameter; bark black); Bernhard Camp, Idenburg River, *Brass & Versteegh 14007*, April 1939, alt. 140 m., frequent on ridges of primary rain-forest (tree 29 m. high, 55 cm. diameter).

Here we have departed from our usual custom not to describe sterile specimens even when we are fairly sure that they represent new species. These collections, however, appear to be well marked by foliar characters. Their alliance is with *Maniltoa urophylla* Harms, but the leaflets are definitely not acuminate, a character which Harms emphasizes in the specific name chosen, in the original description, and also in the comment following it.

Maniltoa Brassii sp. nov.

Arbor gracilis \pm 9 m. alta; ramulis brunnescentibus copiose lenticellatis; petiolo 8–10 mm. longo glabro, rhachi 4–14.5 cm. longa lenticellata; foliolis 3–4-jugis subsessilibus oblique lanceolatis (6–)8–16 cm. longis, (2.5–)3–5.5 cm. latis, basi inaequilateraliter obtusis latere postico subrotundatis vix auriculatis apice obtuse acuminatis, acumine emarginato, costa a margine antico 0.8–1.5 cm. distante, nervis primariis in latere postico 7–11 utrinque prominulis, reticulo laxo supra inconspicuo subtus distincto; inflorescentiis densifloris terminalibus axillaribusque sessilibus probabiliter subglobosis, 6 cm. latis, axi circiter 6 cm. longo ferrugineo-pubescente; bracteis ovatis acutis \pm 3 cm. longis inferis glabris superioribus pubescentibus; pedicellis 3–5 mm. longis pubescentibus basi bibracteolatis, bracteolis \pm 1 cm. longis oblongis subcarinatis in costa margineque pubescentibus; receptaculo circiter 5 mm. longo utrinque pubescente; sepalis 4 inaequalibus \pm 14 mm. longis extus minute pubescentibus vel glabratis; petalis non visis; staminibus \pm 45, filamentis basi pubescente connata excepta glabris, antheris 2 mm. longis minute apiculatis; ovario sessili dense pubescente, stylo 2.5 cm. longo basi pubescente, stigmatibus subcapitellato.

BRITISH NEW GUINEA: Central Division, U-uma River, *Brass 1428* (TYPE), May 1928, in light rain-forests (tall slender tree 30 feet or more).

In the compact inflorescence, and in the union of the stamens above the

usual ring at the base, this species apparently is related to *Maniltoa megaloccephala* Harms; nevertheless, it is distinct in several characters. The lower part of the filaments seems to be more or less united with the pubescent cupular receptacle or calyx-tube; the pedicels are unusually short, likewise the bracts at their base; and the densely pubescent ovary is not stipitate.

Kingiodendron Harms

Kingiodendron alternifolium (Elmer) Merr. & Rolfe, Philip. Jour. Sci. **4**: 267. 1909; Merr. Enum. Philip. Fl. Pl. **2**: 255. 1923.

Cynometra alternifolia Elmer, Leaf. Philip. Bot. **1**: 223. 1907.

Hardwickia alternifolia Elmer, op. cit. 362. 1908.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8004, 8101, October 1936, rain-forest, on river flood plains (large canopy tree with hard grey shallowly fissured bark; flowers greenish or white). Probably *Neth. Ind. For. Serv. bb. 28911*, Hollandia, August 1939, also belongs here.

In 1936 B. L. Burtt described a species of *Kingiodendron* from the Solomon Islands and one from Fiji. This seems to be the first time the genus has been found in New Guinea. These collections, determined by E. G. Baker, are a very good match for the Philippine material of this species.

Crudia Schreber

Crudia subsimplicifolia Merr. Philip. Jour. Sci. Bot. **5**: 39. 1910, Enum. Philip. Fl. Pl. **2**: 256. 1923.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8182, undergrowth of flood-plain rain-forest (nondescript tree 3-4 m. high) (det. E. G. Baker); Vailala River, Ihu, *Brass* 908, rain-forests (tall buttressed tree with scaly pale brown bark and hard brown wood; inflorescence racemose, terminal on lateral shoots).

Type from the Philippines; the genus appears to be new to Papuan records. The first cited collection compares favorably with *Wenzel 1252*, a collection without fruit from the Philippines; the leaves, however, are somewhat more coriaceous and the inflorescence is more elongated. In *Brass 908* the pods are elliptic, apiculate, 7 cm. long, 4 cm. wide, more mature than in the other Papuan collection, and the apex is a little less excentric.

Bauhinia Linnaeus

Bauhinia Schlechteri Harms, Bot. Jahrb. **55**: 55. f. 3. 1918.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass* 13951, April 1939, alt. 50 m., frequent in rain-forest of river flood-plains (tree \pm 20 m. high, 35 cm. diameter; flowers conspicuous and pleasantly fragrant, petals white, the two lower ones orange-red at base. Type from Northeastern New Guinea.

Bauhinia monandra Kurz, Jour. As. Soc. Beng. **42**(2): 73. 1873, For. Fl. Brit. Burma **1**: 395. 1877.

BRITISH NEW GUINEA: Central Division, Kubuna, *Brass* 5652, alt. 100 m., growing thickly on old garden clearings, probably introduced (large bush or small tree; numerous showy flowers, standard pale pink heavily marked with red, other petals pale pink) (det. C. T. White). Introduced.

Mezoneurum Desfontaines

Mezoneurum Scortechinii F. v. Muell. in Wing's South. Sci. Rec. **2**: 73. 1882; F. M. Bail. Queensl. Fl. **2**: 451. 1900.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7498, August 1936, rain-forest (large liane ascending to the tree-tops; leaflets grey beneath; flowers yellow).

This is a Queensland species seemingly collected for the first time in New Guinea. Another species in Papuaasia, *Mezoneurum Peekelii* Harms, allied to those of Malaysia, was described from the Bismarck Archipelago.

Ormosia Jackson

Ormosia calavensis Azaola in Blanco Fl. Filip. ed 2: 230. 1845; Prain, Jour. As. Soc. Beng. 69(2): 180. 1900 (Bot. Notes Papil. 390. 1901); Merr. Enum. Philip. Fl. Pl. 2: 269. 1923; Kaneh. Bot. Mag. Tokyo 45: 285. 1931, Fl. Micrones. 144, f. 49. 1933.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass & Versteegh* 13599, April 1939, alt. 300 m., rare on slopes in primary rain-forest (tree 24 m. high, 55 cm. diameter; fruit black). BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7514, August 1936, rain-forest, rare (tree 14 m. high; leaves somewhat glaucous below; numerous stiff fruiting panicles erect at apex of crown; seeds red) (det. E. G. Baker).

This species is one of the most wide-spread of the genus, having been collected in the Philippines, the Moluccas, Palau Island, and now New Guinea.

Gompholobium Smith

Gompholobium papuanum sp. nov.

Frutex gracilis rigens 1.5 m. altus glaber; ramulis atrobrunnescentibus; foliis pinnatis; petiolo rhachique 9–13 mm. longis; stipulis minute subulatis caducis; foliolis 11–15 paribus suboppositis lineari-oblongis vel lanceolatis, 7–12 mm. longis, 1–2 mm. latis, basi acutis apice acutis apiculatis margine revolutis, supra atro-viridescentibus subtus pallidioribus, nervis inconspicuis vel obscuris; petiolulis 0.5 mm. longis; floribus solitariis in ramulis brevibus terminalibus pedicellatis; pedicellis \pm 5 mm. longis minute bracteolatis; calyce 1 cm. longo, lobis 5 lanceolatis acutis basi 3 mm. connatis; petalis verisimiliter persistentibus, vexillo late reniformi unguiculato apice emarginato 1.3 cm. lato, 1.1 cm. longo includente unguiculum 2 mm. longum, alis oblongis 9 mm. includente 1.5 mm. unguiculum longis, 2.5 mm. latis, carina 1.1 cm. incl. 2.5 mm. unguiculum longa, 4 mm. lata; legumine depresso ovoideo 5 mm. longo, 8 mm. lato, subsessili (stipite 0.5 mm.), 6-ovulato, seminibus subreniformibus vix 3 mm. latis, 1.5 mm. longis, strophiole minimo corrugato hyalino hilum circumdante.

BRITISH NEW GUINEA: Wassi Kussa River, Tumbuke, *Brass* 8432 (TYPE), December 1936, occasional in *Agonis* scrubs (stiff slender shrub 1.5 m. high; persistent petals yellow).

A species evidently related to *Gompholobium nitidum* Benth., but the leaflets are not oblong-cuneate nor emarginate. Apparently this is the first report of the presence of this Australian genus in Papuaasia.

Tephrosia Persoon

Tephrosia leptoclada Benth. Fl. Austr. 2: 207. 1864; F. M. Bail. Queensl. Fl. 2: 393. 1900.

BRITISH NEW GUINEA: Tarara, Wassi Kussa River, *Brass* 8395, December 1936, savannah forest, common in clumps on ridges (undershrub; flowers red) (det. E. G. Baker). Previously known from Queensland.

Tephrosia maculata sp. nov.

Frutex erectus usque 1 m. altus; ramulis pubescentibus pilis patentibus vel retrorsis; foliis breviter petiolatis, petiolo 5 mm. et rhachi 2.5–3 cm. longis patenti-pubescentibus; stipulis setaceo-subulatis caducis; foliolis oppositis 3–4-jugis anguste oblongis vel leviter cuneatis, 1.7–3 cm. longis, 0.7 cm. latis, terminali paullo majore 3.5–4.5 cm. longo, 0.8–1 cm. lato, basi obtuse cuneatis apice leviter retusis supra parce subtus \pm dense pubescentibus, nervis primariis valde adscendentibus, petiolulis 1 mm. longis patenti-pubescentibus; racemis in ramis brevibus terminalibus demum elongatis 2.5-(in fructu)10 cm. longis; pedicellis 3–5 mm. longis pubescentibus; calyce patenti-pubescente, tubo 1.5 mm. longo, lobis lineari-subulatis quam tubo paullo brevioribus; vexillo suborbiculari unguiculato 6 mm. longo, 4 mm. lato, extus pubescente, alis 5 mm. longis carinam superantibus; legumine 2.8 cm. longo, 4 mm. lato, fere recto; seminibus \pm 5 oblongis, 3 mm. longis, 2 mm. latis maculatis.

BRITISH NEW GUINEA: Nakeo District, Baroka, *Brass* 3703 (TYPE), April 1933, alt. 50 m., common on savannah forest grasslands (erect shrub with branched top, up to 1 m. tall; leaves greyish beneath; flowers pale purple).

This collection was determined by Mr. C. T. White as *Tephrosia* aff. *phaeosperma* F. v. Muell. This unquestionably is its relationship. Except on the lower surface of the leaflets, it has a spreading rather than a silky pubescence, the flower is slightly smaller than in the related species, and the seeds are mottled.

Millettia Wight & Arnott

Millettia australis (Endl.) Benth. in Miq. Pl. Junghuhn. 250. 1852; Dunn, Jour. Linn. Soc. Bot. **41**: 163. 1912.

Pterocarpus australis Endl. Prodr. Fl. Norf. 94. 1833.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8214, October 1936, rain-forest (very large flowering screening liane of riverbanks; petals violet, whitish beneath) (det. E. G. Baker).

Described from Norfolk Island, also reported from Queensland and New South Wales. Up to the present we have found, besides this, two records of *Millettia* Wight & Arn. in Papuasia; Dunn, op. cit. 237, excludes one of these from the genus, and the other is a doubtful record of his own, op. cit. 169, 170.

Desmodium Desvaux

Although we have found no new species of *Desmodium* Desv., we are making the following brief record either to indicate range-extensions or older specific names than the ones in our New Guinea index of plants always bearing in mind that this is not a complete index: *Desmodium laxum* DC., *Brass* 911; *D. Muelleri* Benth., *Brass* 6522; *D. nemorosum* var. *simplex* Schindl., *Brass* 3788, 7911, 8344, 8653; *D. microphyllum* DC., *Brass* 3659, 5320; *D. trichostachyum* Benth., *Brass* 7526; *D. triflorum* (L.) DC., *Brass* 6347; *D. sequax* Wall. (*D. sinuatum* Bl.), *Brass* 5512, 11254, 11799; *D. zonatum* Miq., *Brass* 3516.

Dalbergia Linnaeus filius

Dalbergia Albertisii Prain, Jour. As. Soc. Beng. **70**(2): 62. 1901, Ann. Roy. Bot. Soc. Calcutta **10**(1): 33. t. 5. 1904.

BRITISH NEW GUINEA: Lepokera, Vailala River, *Brass 990*, February 1926, low swampy rain-forests (large rambler or climber; leaves pale green, shining above); Gulf Division, Keuru, *Brass 1202*, March 1926, common strand plant, occurring sometimes in the mangrove formations (rambling shrub or climber, glabrous; bark lenticellate; pods flat, 1- or 2-seeded).

The above collections suit well the original description of this species, which seems to be known only from the type-collection; the leaves tend to be a little more acuminate than those shown in the plate. The flowers are in bud: standard obovate-oblong, emarginate, 3.5 mm. long, 2 mm. broad, with a very short claw; wings and keel 3 mm. long, short unguiculate; stamens 10, in one sheath split on the upper side; ovary stipitate, sparsely pilose along the sutures, style short, ovules 2. *Dalbergia papuana* Pulle appears to be a close ally.

***Dalbergia novo-guineensis* sp. nov.**

Frutex magnus; ramulis brunnescentibus striatis crispe puberulis; stipulis minutis pubescentibus mox caducis; foliis 3-4 cm. longis imparipinnatis; petiolo 5-7 mm. et rhachi \pm 2 cm. longis parce crispe pubescentibus; foliolis \pm 7-jugis suboppositis vel subalternis oblongis 7-11 cm. longis, 2-3.5 cm. latis, apice obtusis basi rotundato-cuneatis interdum paullo inaequilateralibus utrinque glabris vel subtus costa margineque brevissime pilosis costa excepta inconspicue venosis; petiolulis 0.5 mm. longis; inflorescentiis brevissimis cum floribus 5 mm. longis, cum fructibus 1.5 cm. longis, axillaribus cymosis, axi pubescente; floribus basi bibracteatis, bracteis 0.5 mm. longis caducis; calyce, lobo postico subcarinato puberulo excepto, glabro 2 mm. longo, ceteris lobis rotundatis; vexillo obovato-oblongo 3 mm. longo, 2.5 mm. lato, basi cuneato vix unguiculato apice emarginato; alis carinaque 2.5 mm. longis breviter unguiculatis; staminibus 10 connatis, tubo latere antico fisso, antheris parvis; ovario brevissime stipitato 1.5 mm. longo 2-ovulato, stylo brevissimo; legumine 1.5 cm. longo, 0.7 cm. lato, basi cuneato stipitato glabro venoso.

BRITISH NEW GUINEA: Vailala River, Maira, *Brass 1031* (TYPE), February 1926, overhanging the river (large bush with dark green pinnate leaves and flat green pods).

The species clearly belongs to the section *Sissoa*, but we cannot at present suggest any species which closely resembles it. Its chief characters are the small glabrous leaves, the very short inflorescence, and the small veined pods; the latter, however, are immature.

***Dalbergia rivularis* sp. nov.**

Scandens; ramulis atro-fuscis striatis glabris novellis tantum crispe pubescentibus; stipulis caducis; foliis 6-8 cm. longis impari-pinnatis; petiolo \pm 1 cm. et rhachi 4-6 cm. longis crispule pubescentibus; foliolis 7-8-jugis suboppositis vel alternis late oblongis, 5-16 mm. longis, 3-8 mm. latis, proximalibus quam distalibus minoribus basi rotundatis inaequilateralibus apice paullo retusis vel truncatis supra consperse pilosis subtus praecipue in costa pilosis, nervis costa excepta inconspicuis; petiolulis 1 mm. longis pubescentibus; inflorescentiis axillaribus circiter 1.5 cm. longis; floribus non visis; calyce 3 mm. longo, lobis anticis 1.5 mm. longis subrotundatis, lateralibus 1.5 mm. longis acutis, lobo postico 2.5 mm. longo lineari-oblongo pubescente; legumine juvenili subfalcato basim versum in suturis crispe piloso, maturo \pm 5 cm. longo, 1.5 cm. lato, basi cuneato

stipitato apice rotundato apiculato, valde applanato inter semine leviter contracto supra semina valde reticulato; seminibus 1-3 reniformibus valde compressis brunnescentibus.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 14080* (TYPE), April 1939, alt. 50 m., common large liane in flooded rain-forest of river plains.

This species is closely allied to *Dalbergia ferruginea* Roxb., but it has smaller leaves, less copious inflorescence, and much sparser more crisped pubescence.

Dalbergia densa var. **australis** Prain, Ann. Roy. Bot. Gard. Calcutta **10**(1): 73. t. 54. 1904.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7751*, September 1936, rain-forest (large profusely flowering canopy liane climbing by tendrillate branchlets; flowers white); Lower Fly River, east bank opposite Sturt Island, *Brass 8042, 8088*, October 1936, rain-forest, common on flood plains and river banks (profusely flowering large canopy climber; flowers white).

The leaflets are smaller and a few more to the leaf than in var. *typica* Prain, also the ovary is glabrous. Distribution according to Prain: Australia (Queensland and some islands).

Derris Loureiro

Derris elegans (Grah.) Benth. in Miq. Pl. Junghuhn. 252. 1852; Prain, Jour. As. Soc. Beng. **66**(2): 103. 1897; Merr. Enum. Philip. Fl. Pl. **2**: 299. 1923.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 13913*, April 1939, alt. 50 m., occasional marginal climber in flood-plain of river forest (flowers white). BRITISH NEW GUINEA: (det. E. G. Baker), Lower Fly River, east bank opposite Sturt Island, *Brass 8024, 8232*, on muddy river banks and in *Erythrina* swamp forests (common large climber; flowers pale pink or white). SOLOMON ISLANDS: Bougainville: Karngu, Buin, *Kajewski 2259, 2290*, October 1930, alt. 50 m., climbing well into the tops of rain-forest trees (vine with pendent racemes; flowers white. Vine used for lashing native houses). San Cristobal: Magoha River, *Brass 2723*, August 1932, lowland rain-forest, on swampy lands, common (very large liane with a profusion of sweet-scented white flowers). Malaysia.

Derris Koolgibberah F. M. Bail. Rep. Bellenden-Ker Exped. 38. 1889; Queensl. Fl. **2**: 445. 1900.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass 8205*, October 1936, climbing shrub on muddy river bank (det. E. G. Baker). Queensland.

Derris heptaphylla (L.) Merr. Interpret. Herb. Amboin. 273. 1917; Enum. Philip. Fl. Pl. **2**: 299. 1923.

BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass 5768*, January-March 1934, very plentiful on river banks and often partially submerged in water backed up by tides (large rambling shrub with erect stiff panicles of greenish flowers) (det. E. G. Baker). India and Malaysia.

Strongylodon Vogel

Strongylodon Archboldianus sp. nov.

Planta glabra scandens; ramulis striatulis; petiolo 3-5 cm. longo supra canaliculato, rhachi 1-1.5 cm. longo, petiolulis 2 mm. longis; stipellis petiolulis subaequalibus, stipulis 2.5-3 mm. longis ovatis plurinerviis; foliis chartaceis vel subcoriaceis ovatis vel oblongo-lanceolatis 4-11 cm. longis, 1.5-5 cm. latis, lateralibus inaequilateralibus basi rotundato-cuneatis

apice obtuse acuminatis, acumine 1–1.5 cm. longo, e basi trinervatis, nervis lateralibus e costa irregulariter ortis utrinsecus 4 vel 5 utrinque perspicuis, reticulo utrinque prominulo; racemis axillaribus 8.5–21 cm. longis; pedunculo 4.5–5 cm. longo, nodis plerumque flores 3 gerentibus, rhachi puberula; bracteis 1–1.5 mm. longis nervatis; pedicellis \pm 1 cm. longis glabris apice bibracteolatis, bracteolis obtusis; calycis tubo 6 mm. longo, lobis brevibus obtusiusculis; vexillo oblongo-lanceolato usque 2.8 cm. longo, 1.4 cm. lato, apice retuso basi unguiculato, ungui 4 mm. longo, alis usque 2 cm. longis, 5 mm. latis, ungui 6 mm. longo, carina 2.5 cm. longa; ovario 5 mm. longo, \pm 9-ovulato, superiore margine puberulo, stipite 5 mm. longo; legumine cultriformi usque 12 cm. longo, 3 cm. lato, stipite 1 cm. longo, valvis coriaceis conspicue reticulatis margine superiore fere rectis inferiore leviter incurvis; seminibus 6 \pm compressis brunnescentibus.

NETHERLANDS NEW GUINEA: southern slopes of Grand Valley, *Brass 9522*, August 1938, alt. 2350 m.; 9 km. northeast of Lake Habbema, *Brass 10755, 10881*, October 1938, alt. 2700 m. and 2650 m., rain-forest of valley bottom, common in small openings and along streams; Bele River, 18 km. northeast of Lake Habbema, *Brass 11429* (TYPE), November 1938, alt. 2200 m., common on forested banks of river; Balim River, *Brass 11696*, December 1938, alt. 1600 m., climbing on woody growths fringing a stream. A slender climber ascending to 2–3 m.; flowers orange-red.

Strongylodon Archboldianus is a possible ally of *S. pulcher* C. B. Rob. of the Philippines, but the latter has different colored flowers, a pubescent calyx, and larger leaves with more numerous veins. The species is amply distinct from the rather widespread *S. lucidus* Seem. in the foliar and fruiting characters, the latter having broader leaflets, and a shorter broader pod with one or two seeds.

Mucuna Adanson

Mucuna Baileyana sp. nov.

Planta magna scandens; ramulis petiolis rhachibus petiolulisque lutescenti-tomentosis demum glabratis; petiolo 5 cm. et rhachi 2.5 cm. petiolulisque 5 mm. longis, stipellis subulatis 4 mm. longis; foliolis suborbicularibus vel late ellipticis, 7–9 cm. longis, 5.5–8 cm. latis, basi rotundatis vel emarginatis lateralibus obliquis apice obtusiusculis, supra parce pubescentibus subtus breviter adpresse villosis vel subtomentosis, costa supra manifesta subtus prominula, venis primariis utrinsecus \pm 6 supra manifestis subtus prominulis; inflorescentiis axillaribus \pm 10 cm. longis racemosis subcorymbosis, pedunculo rhachi pedicellisque breviter tomentosus, pedunculo manifesto \pm 5 cm. et rhachi \pm 1 cm. pedicellisque 2 cm. longis; calyce dense pubescente et pilis urentibus hispido, tubo 6 mm. longo, lobo superiore emarginato 7 mm. longo, 5–6 mm. lato, lateralibus acutis 8 mm. longis, infimo lanceolato 9 mm. longo, 4 mm. lato acuminato; petalis viridescenti-albidis, vexillo obovato 2 cm. longo, 1.3 cm. lato, alis 2.5–3 cm. longis, basim versus margine inferiore barbatis, auriculis pubescentibus, carina 2.5 cm. longa; legumine circiter 15 cm. longo, 3.5 cm. lato alatas suturas 5 mm. includente, valvis oblique transversim lamellatis, lamellis 3–4 mm. latis; seminibus 5 compressis fuscis, 1.8 cm. longis, 1.4 cm. latis, 0.7 cm. crassis.

BRITISH NEW GUINEA: Vailala River, Ihu, *Brass 1104* (TYPE), March 1926, common on banks of rivers (large climber, the whole plant pubescent; scattered bristly hairs on calyx; petals greenish white; pods covered with sharp easily detached bristles).

This is probably *Mucuna urens* var. *papua* F. M. Bail. Queensl. Agric. Jour. **24**: 20. 1910, although the lobes of the calyx are at least twice as long as those described by Bailey, and the pod is a little larger. We do not believe it to be closely related to *M. urens* DC., an American species. It may be allied to *M. Stanleyi* C. T. White, but the flowers are smaller and the pubescence is finer.

***Mucuna discolor* sp. nov.**

Scandens; ramulis petiolisque glabrescentibus; petiolo \pm 4 cm. longo, petiolulis 6 mm. longis adpresse pubescentibus; foliolis ovatis \pm 7 cm. longis, 4.5–5 cm. latis basi rotundatis lateralibus obliquis apice acutis cuspidatis, supra glabris vel consperse pilosis subtus adpresse pubescentibus, costa supra manifesta subtus prominula, venis primariis utrinsecus 4–5 supra manifestis subtus prominulis; inflorescentiis axillaribus paniculatis subcorymbosis, pedunculo ramis pedicellis adpresse pubescentibus, pedunculo usque 2.5 cm. ramis 5 mm. pedicellis \pm 1.5 cm. longis; calyce adpresse pubescente et pilis urentibus hispido, tubo 5 mm. longo late campanulato, lobo superiore 3 mm. longo emarginato, lateralibus 4 mm. longis acutis, infimo lineari-lanceolato 6–7 mm. longo acuminato; vexillo 1.5 cm. longo, alis 2 cm. longis, basim versus margine inferiore barbatis; carina 1.7 cm. longa abrupte apicem versus flexa; legumine ignoto.

BRITISH NEW GUINEA: Ononge Road, Dieni, *Brass 3901* (TYPE), April–May 1933, climbing on roadside regrowth bushes (leaves purple beneath; hairs on calyx brown; flowers cream-colored with a greenish tinge).

The short inflorescence suggests *Mucuna Lane-Poolei* Summerh., but the leaflets are not long caudate-acuminate. The flowers are a little smaller than those of *M. cyanosperma* K. Schum., but in that species the inflorescence has a peduncle 14–18 cm. long, and the leaves are much larger.

***Mucuna brachycarpa* Rechinger, Denkschr. Math.-Nat. Kl. Akad. Wiss. Wien **89**: 562. 1913.**

SOLOMON ISLANDS: Florida (N'Gela): northern end of island, *Brass 3514*, July 1933, alt. 75 m., hill rain-forests (climbing to tops of trees; dark glabrous leaves; calyx covered with brown hairs; corolla greenish, with numerous black specks and occasional blotches of red; only scanty fruiting material available).

In determining this collection we have the choice of assigning it to Rechinger's species or of describing it as new. The original description is wholly inadequate for determinative purposes; apparently the type consists of a stray 2-seeded *Mucuna* pod from Kieta, Bougainville; no dimension is indicated except that of the narrow wings. On account of geographic proximity and two almost unsupported fruit-characters (the scarcely prominent but obvious lamellae and the black seeds), we have assigned the collection to Rechinger's species and here append a brief description of our specimen:

Leaves \pm 15 cm. long; leaflets glabrous or sparsely hairy along the midrib beneath, 5–8 cm. long, 2.9–4 cm. broad, ovate-oblong, apex short and obtusely acuminate, base rounded, the lateral oblique, primary nerves 4 or 5 on either side of the midrib; petiole \pm 5 cm. long, rhachis 1.5 cm., petiolules 5–6 mm. long, stipels subulate; inflorescence apparently on older branches, paniculate, branches on the upper third or fourth of the greyish

pubescent axis, pedicels (1 cm. long) and ultimate branchlets atrofuscos velvety-pubescent; subtending bracts deciduous, broadly lanceolate, 2 cm. long, 0.6 cm. wide, atrofuscos velvety-pubescent; calyx velvety-pubescent with numerous rigid stramineous stinging hairs 2 mm. long, tube 5–6 mm. long, campanulate (in older flowers widely so), teeth triangular, the upper broad obtusish or slightly bilobed, the lateral and lower (4 mm. long) acute or acuminate; corolla 2.5 cm. long, standard 1.5 cm. long, 1 cm. broad, wings 5 mm. wide pubescent on the lower margin towards the base also in the region of the auricles, keel 2.5 cm. long abruptly bent about 1 cm. from the apex; pod (rather old and worn) 8–9 cm. long, scarcely 3 cm. wide, plaits distinct, seeds 3, black or mottled fuscous, \pm 1.5 cm. diameter, somewhat compressed, 1 cm. thick.

***Mucuna elegans* sp. nov.**

Scandens inflorescentiis foliisque novellis exceptis glaber; petiolo 11–13 cm. et rhachi 2.5–3 cm. petiolulisque 1 cm. longis; stipulis stipellisque non visis; foliolis ellipticis vel ovato-ellipticis, 11–13 cm. longis, 6–7 cm. latis, basi subrotundatis vel rotundato-cuneatis lateralibus obliquis apice abrupte anguste acuminatis, acumine \pm 1 cm. longo basi 5 mm. lato, glabris vel novellis subtus consperse pilosis, nervis primariis utrinsecus 3–4 supra manifestis subtus prominulis, reticulo interdum manifesto; inflorescentiis subpaniculatis lateralibus solitariis vel subfasciculatis fere a basi ramosis, rhachi brevi \pm 2.5 cm. et ramis 3–5 mm. pedicellisque 3 cm. longis adpresse pubescentibus, calyce dense pubescente et pilis urentibus hispido, tubo 6 mm. longo late campanulato vel cupuliformi, lobo superiore fere nullo, lobis lateralibus 2 mm. longis acutis, lobo infimo 4–5 mm. longo lanceolato acuminato; petalis coccineis, vexillo 3.5 cm. longo, 2.5 cm. lato, alis 5.5 cm. longis basim versus margine inferiore barbatis, auriculis pubescentibus, carina \pm 6 cm. longa; legumine non viso.

SOLOMON ISLANDS: San Cristobal: Magoha River, *Brass* 2734 (TYPE), August 1932, littoral rain-forest, rare (magnificent climber displaying numerous festoons of large — about 6 cm. long — bright scarlet flowers in short clustered racemes below the pale green leaves).

The short inflorescence below the leaves suggests *Mucuna Bennettii* F. v. Muell., but the latter has prominent calyx-lobes. Another possible relative is *M. miniata* Merr. of Amboina. The latter has flowers very much like this species, but the wings are more pubescent, the rhachis of the inflorescence is much longer, the leaflets are slightly narrower, and the flowers appear before the leaves.

***Canavalia* De Candolle**

***Canavalia papuana* sp. nov.**

Scandens; ramulis glabris vel nodis parce pubescentibus; petiolo 4–10 cm. longo supra canaliculato, rhachi 2–4 cm. longa, petiolulis 3–5 mm. longis minute pubescentibus, stipulis stipellisque caducis; foliolis membranaceis ovato-ellipticis 10–13 cm. longis, 5–8 cm. latis, lateralibus basi subrotundatis obliquis (foliolo terminali breviter cuneato-rotundato) apice acutiusculis vel breviter obtuseque acuminatis apiculatis glabris; costa nervisque primariis utrinsecus \pm 7 supra manifestis subtus prominulis, reticulo utrinque manifesto; inflorescentiis axillaribus racemosis 12–20-floris, pedunculo 10–14 cm. longo, rhachi subaequali puberula, nodis crassis,

pedicellis \pm 2 cm. longis; bracteolis non visis; calyce campanulato consperse breviter pubescente, tubo 5 mm. longo, lobo supero vix 3 mm. longo late rotundato emarginato, lobis inferis 3 brevibus triangularibus acutiusculis; vexillo \pm 2 cm. longo unguiculato, ungui 5 mm. longo, alis circiter 2 cm. longis, 3–4 mm. latis, carina incurva obtusa; legumine minute pubescente oblongo \pm 8 cm. longo, 1.8–2 cm. lato, sutura dorsali tricarinata; seminibus 5–6 immaturis.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7730 (TYPE), September 1936, climbing over low second growths.

This species is unquestionably allied to *Canavalia luzonica* Piper, but the flowers are smaller and the pods are shorter, although those of the type are not yet mature. The two longitudinal ridges are very close to the dorsal suture.

DATISCACEAE

Tetrameles R. Brown

Tetrameles nudiflora R. Br. in Benn. Pl. Jav. Rar. 17, t. 17. 1838–1852; Koord. & Val. Mededeel. Lands Plant. 61: 37 (Bijdr. Boomsoort. Jav. 9: 37). 1903; Atl. Baumart. Jav. 1: f. 71. 1913.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8240, November 1936, rain-forest, plentiful on the drier ridges (very large deciduous tree; stem heavily buttressed and producing large spreading surface roots; bark very thick, smooth, grey, lenticellate; flowers green; leaves not seen). India to the Celebes.

This collection consists only of staminate panicles, but the flowers are a good match for the δ material of this species in our herbarium, and the description of the tree corresponds so well with that of the original that we believe the collection must belong to *Tetrameles nudiflora* R. Br., representing a genus not previously reported for New Guinea.

HALORAGACEAE

Haloragis J. R. & G. Forster

Haloragis chinensis (Lour.) Merr. Trans. Amer. Philos. Soc. II. 24(2): 290. 1935.
Gaura chinensis Lour. Fl. Cochinch. 225. 1790.
Goniocarpus scaber Koenig in Koenig & Sims Ann. Bot. 1: 547, t. 12, f. 6. 1805.
Haloragis scabra Benth. Fl. Hongk. 139. 1861.
Haloragis scabra var. *elongata* Schindler, Pflanzenr. 23(IV. 225): 29. 1905.

NETHERLANDS NEW GUINEA: Balim River, *Brass* 11629, December 1938, alt. 1600 m., deforested slopes, common on sandy soil (flowers red). BRITISH NEW GUINEA: Oriomo River, Wuroi, *Brass* 5855, January–March 1934, alt. 20 m., a few plants in a small tea-tree marsh on savanna (weak ascending scabrous herb).

This material, here recorded to call attention to the older specific name, agrees very well with the Chinese collections of this species.

Haloragis acanthocarpa Brongn. in Duperrey, Voy. t. 70. 1828; Benth. Fl. Austr. 2: 483. 1864; F. M. Bail. Queensl. Fl. 2: 555. 1900.

BRITISH NEW GUINEA: Wassi Kussa River, Tarara, *Brass* 8669, January 1937, poorly drained savanna forest, commonly surrounding termite mounds.

The fruit agrees better with the description of *Haloragis leptotheca* F. v. Muell. than with that of *H. acanthocarpa* Brongn.; however, since the two are accepted as synonymous, we see no reason for excluding the

collection from this species. The fruit, apart from the calyx-lobes crowning it, is narrowly oblong, 1.2 mm. long, 0.8 mm. broad, 8-ribbed, with 3 or 4 minute tubercles in a single row between each pair of ribs.

Haloragis nemorosa F. W. Went, Nov. Guin. **14**: 107, *t. 11B*, 1924.

NETHERLANDS NEW GUINEA: Balim River, *Brass 11672*, December 1938, alt. 1700 m., common on grassy banks of stream (slender, erect or shortly scrambling shrub 1 m. or more high; flowers red).

This collection is a close match for the plate of this species. It differs in the following points from the original description: stem terete, subtomentose, angular only on the upper part; leaves scabrous above, beneath the hairs very short and minutely bulbous at the base (cf. Went's description of the upper surface of the leaves of *H. fruticosa*), trichomes longer and more crowded on the midrib; calyx-tube in younger leaves \pm pubescent, in the older ones tending to have only the veins pubescent. This is mainly a difference in the amount of pubescence, and possibly in the quality, although allowance must be made for individual differences in definition; such differences could hardly be considered of specific value without a comparison with the actual type.

LOGANIACEAE

Geniostoma J. R. & G. Forster

Geniostoma Archboldianum sp. nov.

Arbuscula 2.5–7 m. alta; ramulis tetragonis 4-lineatis, novellis nigrescentibus dense puberulis demum glabris; foliis coriaceis opacis in sicco nigrescentibus ellipticis 1.8–4 cm. longis, 1–2.2 cm. latis, apice acutiusculis vel obtusiusculis basi breviter late cuneatis, costa supra subplana vel elevata subtus prominula, nervis primariis utrinsecus \pm 6 patenti-adscedentibus marginem versus arcuatis supra subobscuris subtus perspicue manifestis non elevatis, venulis indistinctis; stipulis novellis late ovatis cito marcescentibus vel deciduis; petiolo circiter 5 mm. longo glabro; floribus in foliorum axillis in cymis paucifloris circiter 5 mm., in fructu usque 10 mm. longas dispositis; pedicellis basim versus bracteatis; sepalis ovatis acutis 1 mm. longis basim versus connatis; corollae tubo circiter 1.5 mm. longo intus fere glabro (trichomis paucis prope filamenta), lobis 1–1.5 mm. longis intus glabris vel minutissime papillois; filamentis vix 0.5 mm. longis minute pilosis, antheris ovatis cordatis 1 mm. longis apice connectivo manifeste apiculatis, utrinque \pm breviter pilosis; ovario depresso subgloboso 1 mm. longo, 1.5 mm. lato, glabro, stylo 0.4 mm. longo minute pubescente, stigmatibus globosis pubescentibus; fructibus ovoideis 5 mm. longis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass 11362* (TYPE), November 1938, alt. 2200 m., rain-forest, on bank of river (weak-tree 2.5 m. high; leaves dark green; flowers white; green dehiscent fruits with red seeds); same locality, *Brass 11533*, alt. 2400 m., forest substage (tree 7 m. high; flowers white); Balim River, *Brass 11750*, December 1938, alt. 1800 m., grassy long deforested slopes (small bushy tree; flowers white).

The distinctive floral characters are the size of the flower, the practically glabrous corolla, the pubescent and manifestly apiculate anthers. The latter character suggests an alliance with *Geniostoma antherotrichum* Gilg & Benedict, but the latter has much larger leaves and larger much more

elaborately branched inflorescences. In *G. Archboldianum* the veins of the corolla lobes are usually 3 or 5, the laterals running off from the midrib near the base and sometimes branching again near the tip. The species, in several characters, suggests *G. Pullei* Cammerl. but the leaves are shorter in proportion to the width and not acuminate, the pedicels are glabrous, the filaments are short, and the stigma is globose.

Geniostoma Gilgii nom. nov.

Geniostoma stenophyllum Gilg. & Benedict, Bot. Jahrb. **54**: 162. 1916, non Merr. (1912).

The species is not represented in our material.

Geniostoma Brassii sp. nov.

Arbuscula vel frutex glaber; ramis cinereis, ramulis brunnescentibus cito cinerascentibus compressis; foliis coriaceis in sicco atrofusces lanceolatis 6–9 cm. longis, 1.5–2.5 cm. latis, apice acuminatis basi anguste rotundatis vel late ac breviter cuneatis, costa supra impressa subtus prominente, nervis primariis utrinsecus ± 7 arcuatim adscendentibus supra interdum impressis subtus \pm prominulis, reticulo obscuro; petiolo circiter 1 cm. longo; floribus in foliorum axillis in cymas 5–7-floras compactas circiter 1 cm. longas confertis; pedicellis ± 1.5 cm. longis; bracteis parvis; sepalis vix 2 mm. longis ovatis obtusis; corollae tubo 3 mm. longo intus faucem versus et ad faucem dense longiuscule piloso, lobis anguste ovatis 2.5 mm. longis obtusiusculis basim versus pilosis; filamentis brevissimis, antheris oblongo-ovatis 1.2–1.4 mm. longis apice minute apiculatis glabris; ovario subgloboso glabro, 1 mm. longo, stylo glabro 1 mm. longo, stigmate crasse clavato; fructibus ovoideis 8 mm. longis 5 mm. diametro.

SOLOMON ISLANDS: San Cristobal: Hinuahaoro, *Brass 3024* (TYPE), September 1932, alt. 900 m., common in mountain rain-forests (slender virgate tree or small shrub).

A species superficially somewhat resembling *Geniostoma Cumingianum* Bentham of the Philippines and *G. rupestre* Forst. of Polynesia. It differs from both in the stiff (when dry) coriaceous leaves and the clavate stigma. The lateral veins of the lobes of the corolla arise with the midrib at the base of the tube and branch dichotomously, the point of branching is concealed beneath the pilosity in the throat of the tube and the base of the corolla lobes.

Geniostoma Randianum sp. nov.

Arbuscula vel frutex 2–4 m. altus glaber; ramulis tetragonis novellis brunnescentibus demum cinereis; foliis coriaceis in sicco atro-viridescenscibus subtus pallidioribus, oblongis 2.5–4 cm. longis, 0.8–2 cm. latis, utrinque aequaliter angustatis apice apiculatis, apiculo interdum \pm pubescente, costa supra plana vel leviter elevata subtus prominente, nervis primariis utrinsecus ± 6 patenti-adscendentibus marginem versus arcuatis supra insculptis subtus prominulis, reticulo utrinque manifesto; stipulis triangularibus apiculatis; petiolo circiter 5 mm. longo basi bulboso; floribus in foliorum axillis solitariis vel in cymis depauperatis dispositis; sepalis 1.5 mm. longis ovatis acutis basim versus connatis; corollae tubo 4 mm. longis extus glabro intus faucem versus consperse breviter piloso, lobis ovatis 3 mm. longis acutiusculis glabris; filamentis vix 1 mm. longis pilosis, antheris

ovatis apice connectivo minute apiculatis breviter pilosis; ovario globoso 2 mm. diametro, stylo 2 mm. longo glabro, stigmatibus pubescentibus; fructibus in specimine typico immaturis oblongo-ovoideis 1.4 mm. longis.

BRITISH NEW GUINEA: Wharton Range, Murray Pass, *Brass 4522* (TYPE), June–September 1933, alt. 2840 m., common in forest fringes (small tree or large bush 2–4 m. tall; leaves thick, shining, yellowish beneath; flowers green; fruit dark green).

Only in the pilose anthers the species shows a similarity to *Geniostoma antherotrichum* Gilg & Benedict. Its best characters are the 4-angled branchlets, the small oblong leaves, the relatively large flowers with pilose anthers, and the fairly large fruit. The lateral veins of the corolla lobes are usually twice dichotomously branched.

***Geniostoma obtusum* sp. nov.**

Frutex circiter 2 m. altus glaberrimus; ramulis tetragonis 4-lineatis novellis brunnescentibus cito cinereis; foliis coriaceis opacis supra rugosis in sicco nigrescentibus subtus pallidioribus obovato-ellipticis 2.5–5 cm. longis, 1.5–2.8 cm. latis apice rotundatis saepe minute apiculatis basi cuneatis, costa utrinque \pm elevata, nervis primariis utrinsecus \pm 6 arcuato-adscendentibus supra insculptis subtus prominulis, reticulo laxo supra impresso subtus manifeste vix prominulo; stipulis triangularibus apice acutis; petiolo 5–8 mm. longo basi bulboso; floribus in foliorum axillis solitariis vel binis pseudofasciculatis; pedicellis basim versus bracteatis; sepalis late ovatis acutiusculis 1.5 mm. longis in parte $\frac{1}{4}$ inferiore connatis; corollae tubo campanulato extus glabro intus faucem versus breviter piloso 4 mm. longo, lobis 3 mm. longis ovatis acutiusculis basi pilosis; staminibus ad faucem insertis, filamentis subnullis, antheris ovato-ellipticis 1.5 mm. longis apice connectivo manifeste appendiculatis breviter pilosis; ovario globoso glabro, stylo 2 mm. longo glabro, stigmatibus subgloboso parce pubescentibus vel fere glabro; valvis fructus 2 cm. longis 1 cm. latis.

BRITISH NEW GUINEA: Mount Tafa, *Brass 4995* (TYPE), May–September 1933, alt. 2400 m., debris of an old landslip (bush about 2 m. tall; flowers pale green; dark green fruit).

This species is closely related to *Geniostoma Randianum* Merr. & Perry. It differs chiefly in the obovate leaves. There is a slight difference in the pubescence in the throat of the corolla, and the stigma is practically glabrous.

***Mitrasacme* Labillardière**

***Mitrasacme alsinoides* R. Br. Prodr. 453. 1810.**

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7826*, September 1936, plentiful on wet grass plains (flowers white).

Apparently this is a new record for New Guinea, although the plant has been reported from Australia and also from Malaysia. This species-name and *M. indica* Wight have been considered synonyms by some authors. We have not material available to settle the question. In this material the throat is shortly bearded, a character not mentioned in the original description.

***Couthovia* A. Gray**

***Couthovia novo-britannica* Kaneh. & Hatus. Bot. Mag. Tokyo 53: 9. 1939.**

SOLOMON ISLANDS: Bougainville: Kupei Gold Field, *Kajewski 1679*, April

1930, alt. 950 m., rain-forest; Koniguru, Buin, *Kajewski 2010*, August 1930, alt. 800 m., rain-forest (tree up to 20 m. high, fruit white). *Ysabel*: Tiratona, *Brass 3408*, December 1932, alt. 600 m., rain-forest (small tree with brown slightly flaky bark). *Gaudalcanal*: Uulolo, Tutuve Mountain, *Kajewski 2548*, April 1931, alt. 1200 m., rain-forest.

Although, in the original description, the tube of the corolla below the throat is described as glabrous within, we find in the buds of a co-type that there are small fascicles of hairs between the short filaments and that very few, if any, hairs are attached to the base of the anthers. That is, according to our interpretation, the anthers are glabrous or practically so. These characters hold in the specimens cited above, and with the material at hand we are unable to distinguish them from Kanehira and Hatusima's species. Without examination of the type of *Couthovia brachyura* Gilg & Benedict, we are not in a position either to confirm or to deny the inference in the discussion of *C. novo-britannica* Kaneh. & Hatus. that *C. Brassii* S. Moore is most probably identical with *C. brachyura* Gilg. & Bened. We would suggest, however, that the isotype of *C. Brassii* S. Moore does not correspond with the original description of Gilg & Benedict's species.

***Couthovia macrophylla* sp. nov.**

Arbor usque 20 m. alta; ramulis angulatis levibus; foliis chartaceis petiolatis, petiolo 1.5–2.5 cm. longo, stipulis interpetiolaribus usque $\frac{1}{2}$ petiolo adnatis chartaceis vel subcoriaceis profunde fissis 0.7–2 cm. longis partibus triangularibus acutis persistentibus; lamina elliptica vel subrotundata, 18–27 cm. longa et 12–24 cm. lata, apice rotundata basi rotundata deinde abrupte breviter cuneata, costa supra canaliculata subtus prominente, nervis lateralibus utrinsecus 10–12 patenti-adscendentibus utrinque prominulis, venis laxe reticulatis; floribus in apice ramorum in subcorymbum multiflorum cymosum confertis, cymis circiter 4–plo divisis, pedunculis 12–14 cm. longis, ramis primariis \pm 8 cm. longis secundariis atque tertiariis valde diminutis omnibus dense minuteque pubescentibus; pedicellis brevissimis; sepalis rotundatis pubescentibus ciliatis basi in brevem tubum connatis; corolla extus puberula, tubo cylindraceo 3 mm. longo, intus in parte intermedia inter antheras dense fasciculatim piloso, lobis ovatis acutis 1.5 mm. longis, fauce densissime pilosa; staminibus in parte $\frac{1}{3}$ inferiore insertis, filamentis 1.5 mm. longis, antheris anguste ovatis 1.5 mm. longis glabris; ovario ovoideo sursum in stylum attenuato capitato; fructu elongate conico 2 cm. longo 1 cm. diametro deinde in stipitem \pm 7 mm. longum 4 mm. latum abrupte constricto.

BRITISH NEW GUINEA: Western Division, Oriomo River, Wuroi, *Brass 5815*, common on banks of tidal backwater river (large bush or small open tree; fruit fibrous, orange-red); Lower Fly River, east bank opposite Sturt Island, *Brass 8007* (TYPE), October 1936, abundant in poorly developed forest on some flood-plains (tree with small crown and pale fibrous flaky bark, attaining 20 m.; stem flanged or fluted; leaf-nerves pale; flowers white).

This species shows considerable likeness to *Couthovia celebica* Koord. In that, however, the corolla tube, except the villous throat, is described as glabrous within, although the plate, Suppl. 1, Fl. N. O. Celebes, t.2. 1918, would seem to indicate that the corolla is pubescent between the bases of the filaments as it is in our species. Unfortunately, in the two

collections we have from the Celebes the flowers are only in young bud. The fruit of the New Guinean material is much more elongate than that in the Philippine collections of *C. celebica* Koord. Until much more material is available to show variations we think it preferable to regard these as two distinct but closely related species.

***Couthovia leucocarpa* sp. nov.**

Arbor 23–41 m. alta; ramulis subteretibus fuscis levibus; foliis subcoriaceis petiolatis, petiolo 1–1.5(–2) cm. longo, stipulis interpetiolaribus obovoideis obtusis plerumque longitudinaliter profunde fassis; lamina elliptica, 7–13 cm. longa et 4–8 cm. lata, utrinque angustata apice obtusiuscula vel interdum rotundata basi breviter cuneata, costa supra subplana subtus prominente, nervis lateralibus utrinsecus \pm 5 utrinque prominulis subadscendentibus, venis laxe reticulatis obscuris; floribus in apice ramorum in corymbum multiflorum densum confertis, pedunculis 1–1.5 cm. longis cymae ramis primariis 3–4 cm. longis secundariis atque tertiariis valde diminutis consperse puberulis; pedicellis nullis vel subnullis; bracteis minimis puberulis; sepalis 2 mm. longis suborbicularibus margine ciliolatis; corollae tubo cylindraceo 3 mm. longo, lobis ovatis acutis 1 mm. longis, fauce dense pilosa, tubo ceterum intus glabro vel in parte intermedia inter antheras parce pubescente; staminibus in medio tubo insertis, filamentis brevissimis, antheris anguste ovatis basi manifeste barbatis, ovario ovoideo sursum in stylum tenuem attenuato, stigmate capitato; fructu figura triangulo-ovoideo 1.5 cm. longo, 1.8 cm. lato, basi in stipitem obconicum 0.7 cm. longum totidem latum abrupte constricto.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13116* (TYPE), March 1939, alt. 850 m., occasional in rain-forest of plain (tree 23 m. high, 40 cm. diameter; flowers white; ripe fruit white); 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13517*, March 1939, alt. 750 m. (tree 41 m. high, 72 cm. diameter; flowers white, ripe fruit white); Bernhard Camp, Idenburg River, *Brass & Versteegh 13593*, April 1939, alt. 350 m. (tree 31 m. high, 66 cm. diameter; fruits green).

This species suggests *Couthovia terminalioides* Gilg & Bened. in floral characters, but the latter has rather larger leaves and fruit gradually long-attenuate at the apex.

***Fagraea* Thunberg**

***Fagraea Archboldiana* sp. nov.**

Arbor 5 m. alta; ramulis novellis viridescentibus demum pallide cinereis; foliis petiolatis, petiolo 1.5–2 cm. longo, basi stipulis in laminulam intra-petiolaem retusam pulviniformem connatis aucto; lamina 9–14 cm. longa, 3–5 cm. lata, obovato-oblonga vel oblanceolata basi longe cuneata apice subabrupte acuta vel breviter acuminata, costa basim versus laminae utrinque prominente, nervis lateralibus utrinsecus \pm 6 obscuris; inflorescentiis 3- vel 5-floris; bracteis infimis foliiformibus, pedunculis vel pedicellis 1–2.5 cm. longis; bracteolis 2 ovatis obtusis circiter 2 cm. longis basi connatis coriaceis margine membranaceis concavis lateraliter compressiusculis; calycis tubo 1 cm. longo, lobis 1.5–2 cm. longis rotundatis margine membranaceis; corollae tubo 3.5–4 cm. longo infundibuliformi intus calycem circiter 1 cm. sub lobis 2–2.5 cm. diametro, lobis late rotundatis 1.5 cm. longis, 1.8 cm. latis; staminibus circiter in tubo medio insertis; fla-

mentis \pm 1.5 cm. longis, antheris 1 cm. longis, 4 mm. latis; stylo 3.5 cm. longo, stigmatе suborbiculari; fructibus obovoideis immaturis in sicco 3 cm. longis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass* 11343 (TYPE), November 1938, alt. 2300 m., Fagaceae forests, occasional in seral growths of forest openings (tree 5 m. high; flowers greenish yellow).

As far as we know, this is the only *Fagraea* as yet described from New Guinea with large coriaceous bracts embracing the base of the calyx. In some respects it suggests *F. obovata* Wall. but, in the collections at hand, that species has much smaller bracts and these do not particularly cover the base of the calyx. Two specimens from the Philippines, *Ramos* 30451, Cantanduanes, and *Wenzel* 936, Leyte, have these large bracts enclosing the lower part of the calyx and may be conspecific with our species.

Fagraea Cambagei Domin, *Bibl. Bot.* **22**(Heft 89⁶): 1071. 1928.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7454, August 1936, common in bushy type of rain-forest (tree 10–12 m. tall; branches flat spreading; bark brown, hard, deeply furrowed and fissured; flowers cream; fruit white); Lower Fly River, east bank opposite Sturt Island, *Brass* 8097, October 1936, rain-forest, common on dry ridges (brushy substage tree 6–7 m. tall; flowers pale yellow; fruit smooth, white, up to \pm 2.5 cm. diameter).

Although in these collections the inflorescence is terminal rather than lateral as given in the original description, the material is a fairly good match for collections so named from Queensland. It is certainly too close to the original description to be considered distinct without comparison with the actual type. The fruit is ovoid and shortly apiculate.

Fagraea elata sp. nov.

Arbor \pm 28 m. alta; ramulis brunnescentibus; foliis coriaceis petiolatis, petiolo 2 cm. longo supra plano, basi stipulis in laminulam intrapetiolarum obtusam vix 5 mm. longam connatis aucto; lamina elliptica 8–13 cm. longa, 4–6.5 cm. lata, apice rotundata deinde abrupte brevissime (3–5 mm.) obtuse acuminata basi rotundato-cuneata, costa supra impressa subtus prominente, nervis lateralibus utrinsecus 6–8 supra insculptis subtus manifestis; floribus in apice ramorum in cymis paucifloris dispositis, cymae ramis \pm 1 cm. longis; bracteis infimis foliiformibus circiter 2 cm. longis, 7 mm. latis, ceteris squamiformibus oblongis 3–4 mm. longis, rotundatis leviter compressis; pedicellis vix 1 cm. longis; floribus in alabastris tantum visis; calycis tubo vix 5 mm. longo, lobis circiter 6 mm. longis latisque rotundatis; corollae tubo immaturo; staminibus circiter in medio tubo insertis; fructibus vix maturis 3 cm. longis rostrum 1 cm. longum, 1.7 cm. diametro, includentibus, obovoideis apice subabrupte longe rostratis.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 11975 (TYPE), January 1939, alt. 1530 m., rare on slopes of primary forest (tree 28 m. high, 36 cm. diameter; flower-buds green; fruit green); 6 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 12533, February 1939, alt. 1200 m., frequent on slopes of primary forest (tree 29 m. high, 58 cm. diameter; flower-buds green; fruits orange-colored).

In the obvious primary veins of the leaves the species suggests *Fagraea dolichopoda* Gilg & Bened. The leaves of the latter, however, are very different in outline, being manifestly acuminate at the apex and narrowly

cuneate at the base. The fruits, too, are different. Closely allied and possibly belonging to this species is *Brass 1418*, Aisa River, Eastern Division, British New Guinea.

Fagraea Bodenii Wernh. Trans. Linn. Soc. Bot. II. 9: 111. 1916.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass & Versteegh 10453*, *Brass 10541*, alt. 2800 m.; Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh 11113*, alt. 2240 m.; Balim River, *Brass & Versteegh 11191*, alt. 2160 m.; 15 km. southwest of Bernhard Camp, Idenburg River, *Brass 12133*, alt. 1800 m.; 6 km. southwest of Bernhard Camp, Idenburg River, *Brass 12744*, alt. 1500 m. (epiphytic tree 6 m. high; flowers cream-colored; fruits orange).

These collections are relatively uniform. Frequent or occasional in mossy forest, a tree 15–20 m. high with white or cream-colored fragrant flowers and orange-colored fruits. The type should be compared with the original of *Fagraea suaveolens* Cammerl. The latter has slightly larger flowers than those in the collections cited; there is, nevertheless, a strong resemblance in the two descriptions. Wernham does not give the size of the flower in his species. Either identical or very closely related is: *Brass 4084*, alt. 2350 m., Mount Tafa, British New Guinea. Here the corolla tube is more campanulate than infundibular.

Fagraea papuana sp. nov.

Arbor epiphytica circiter 10 m. alta; ramulis \pm angulatis cinereis vel pallide brunnescentibus; foliis petiolatis, petiolo 1–2 cm. longo stipulis in laminulam intrapetiolaem obtusam 5–7 mm. longam connatis aucto; lamina obovato-oblonga 6–11 cm. longa, 3–5 cm. lata, apice abrupte obtuse breviter acuminata basi sensim cuneata, costa utrinque distincta, nervis lateralibus utrinsecus circiter 8–10 obscuris; floribus in apice ramorum in cymam plurifloram 2-plo divisam dispositis, cymae ramis 1–1.5 cm. longis; pedicellis \pm 5 mm. longis; bracteis infimis circiter 2.5 cm. longis foliiformibus vix 5 mm. petiolatis, ceteris squamiformibus ovatis rotundatis 3–4 mm. longis; calyce circiter 6 mm. longo, lobis rotundatis 3 mm. longis; corollae tubo 2 cm. longo infundibulari supra calycem 3–4 mm. sub apice 5–7 mm. diametro, lobis late oblongis 1.5 cm. longis, 1 cm. latis; staminibus circiter 8 mm. supra basim corollae tubi insertis, filamentis \pm 5 mm. longis, antheris 1 cm. longis; stylo incluso, stigmatate bilobo; fructibus immaturis 2 cm. longis, 1 cm. latis, obovoideis apice breviter rostratis.

BRITISH NEW GUINEA: Fly River, 528 mile Camp, *Brass 6749* (TYPE), May 1936, alt. 80 m., ridge-forest (epiphyte in top of a canopy tree, \pm 10 m. high; leaves somewhat fleshy with recurved tips; flowers cream-colored, fragrant).

This species suggests two species already described, *Fagraea calophylloides* Gilg & Bened. and *F. Bodenii* Wernh. The first has leaves with numerous or very numerous primary veins and, according to fig. 11 accompanying the original description, stamens inserted above the middle of the corolla tube. In our species the leaves show 8–10 pairs of primary veins in transmitted light, otherwise it is difficult to count them; the stamens are inserted on the lower 1/3 of the corolla tube. In *F. Bodenii* Wernh. the fruit is long-rostrate and the filaments are about twice as long as in *F. papuana*.

Fagraea obtusifolia sp. nov.

Arbor 20–30 m. alta; ramulis cinereis internodiis brevissimis; foliis coriaceis petiolatis; petiolo 2–3.5 cm. longo supra subplano basi dilatato; lamina suborbiculari vel late elliptica 6.5–12 cm. longa, 4–10 cm. lata, apice rotundata basi rotundata deinde abrupte cuneata, costa supra impressa subtus subprominente, nervis lateralibus utrinsecus 4–6 supra leviter insculptis subtus prominulis; inflorescentiis cymosis 2-plo divisis in fructu \pm 3.5 cm. longis terminalibus atque in axillis foliorum superiorum; ramis cymae \pm 5 mm. longis; floribus non visis; pedicellis 1–1.5 cm. longis basi bibracteatis, bracteis ovatis obtusis circiter 2 mm. longis; calycis tubo brevissimo, lobis subrotundatis patentibus 4–5 mm. longis latisque margine membranaceis; fructibus oblongis breviter apiculatis 1.5 cm. longis, 1 cm. diametro.

SOLOMON ISLANDS: Y s a b e l: Tataba, *Brass* 3444 (TYPE), January 1933, alt. 50 m., rain-forest ridges, common (handsome tree with spreading crown, 20–30 m. tall; thick rough rather fibrous bark and hard brown wood; very thick concave leaves yellow-green beneath; very smooth pale brown soft fleshy fruit).

We are unable to suggest a closely allied species. The almost orbicular long-petioled leaves, the short branches of the inflorescence, the long pedicels, the short inconspicuous calyx-tube, and the spreading lobes are the best characters of this rather distinctive species.

Fagraea aurantiodora S. Moore, Jour. Bot. **66**: 105. 1928; C. T. White, Jour. Arnold Arb. **10**: 259. 1929.

NETHERLANDS NEW GUINEA: 2 km. southwest of Bernhard Camp, Idenburg River, *Brass* 13472, March 1939, alt. 800 m., rain-forest (subsidiary tree 25 cm. diameter; flowers white; fruits orange).

This is a new record for Netherlands New Guinea. The species belongs to the subgenus *Cyrtophyllum* along with *F. elliptica* Roxb., *F. sumatrana* Miq., *F. fragrans* Roxb., and *F. sororia* J. J. Sm. The dried fruit is subglobose and about 4 mm. in diameter.

Fagraea salomonensis Gilg & Benedict, Bot. Jahrb. **56**: 554. 1921.

SOLOMON ISLANDS: B o u g a i n v i l l e: Kupei Gold Field, *Kajewski* 1688, April 1930, alt. 1000 m.; Koniguru, Buin, *Kajewski* 2041, August 1930, alt. 950 m. G u a d a l c a n a l: Uulolo, Tutuve Mountain, *Kajewski* 2522, April 1931, alt. 1200 m.; Sorvorhio Basin, *Kajewski* 2708, January 1930, alt. 150 m. S a n C r i s t o b a l: Hinuahaoro, *Brass* 2915, September 1932, alt. 900 m. Y s a b e l: Tiratona, *Brass* 3212, November 1932, alt. 600 m. Rain-forest. Tree sometimes epiphytic, sometimes terrestrial, with pale yellow heavily scented flowers and yellow or orange-colored subglobose and shortly apiculate fruit \pm 3.6 cm. long and 3 cm. diameter. Natives use fruit as a fly-trap, first removing the epicarp to expose the viscid mesocarp.

These collections agree reasonably well with the original description of *Fagraea salomonensis* Gilg & Bened. One of the Brass collections is in flower, the dimensions being only very little smaller than those of the original. The inflorescence is about 10 cm. long, subtended at the base by leaves and at the nodes by oblong or ovate obtuse bracts 8–4 mm. long; the stamens are inserted a little above the middle of the corolla-tube, and the anthers are linear, 1 cm. long, exserted at the tips only.

Neuburgia Blume

Although none of our material falls into *Neuburgia* Bl., to aid the next

worker to find the genus more easily, we here append this short note. Markgraf in "Die Apocynaceen von Neu-Guinea," Bot. Jahrb. 61: 222. 1927, transferred the genus from the Apocynaceae to the Loganiaceae. In a brief comment, he indicated that *Neuburgia tubiflora* Bl. is identical with *Crateriphytum moluccanum* Scheff., and that Blume's name is the older, hence valid. The type of the genus is *N. tubiflora* Bl. As for the other species included in the genus, *N. musculiformis* (Lam.) Miq. (*N. tuberculata* Bl.), we are uncertain as to its identity, but from Rumphius's description and plate, we are confident it does not belong to the genus *Neuburgia* Bl.

RUBIACEAE

Mastixiodendron Melchior

Mastixiodendron pachyclados (K. Schum.) Melchior, Bot. Jahrb. **60**: 168, t. 1. 1925; C. T. White, Jour. Arnold Arb. **10**: 257. 1929.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass & Versteegh 13548*, April 1939, alt. 120 m., occasional in primary forest, on slope of ridge (tree 31 m. high, 45 cm. diameter; bark black, scaly; fruit green); same locality, *Brass 14097*, April 1939, alt. 50 m., rain-forest of river plains, subject to occasional inundations, sometimes in almost pure stands \pm 30 m. high but of limited extent; stem with small plank-buttresses; bark brown, lenticellate; wood yellowish; leaf-margins recurved below the middle; flowers green; fruit unripe).

In the sight determinations, these collections were placed in the Loganiaceae, probably on account of the pubescence or long yellow papillae on the inside of the corolla-lobes. However, on working over the Loganiaceae, we find the material undoubtedly belongs to *Mastixiodendron* Meich., established as a genus of the Cornaceae. This we sent to Dr. I. W. Bailey for a check. He replied, "Although Melchior studied the structure of the leaves and stem, he failed to recognize that the structure of these organs excludes the plant from the Cornaceae. *Mastixiodendron* is clearly rubiaceous." The genus is very closely related to *Dorisia* Gillespie in Hook. Ic. Pl. **32**: t. 3190. 1933, first placed in the Cornaceae, but later removed to the Rubiaceae by Dr. A. C. Smith; for discussion, see Bishop Mus. Bull. **141**: 140, 141. 1936.

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